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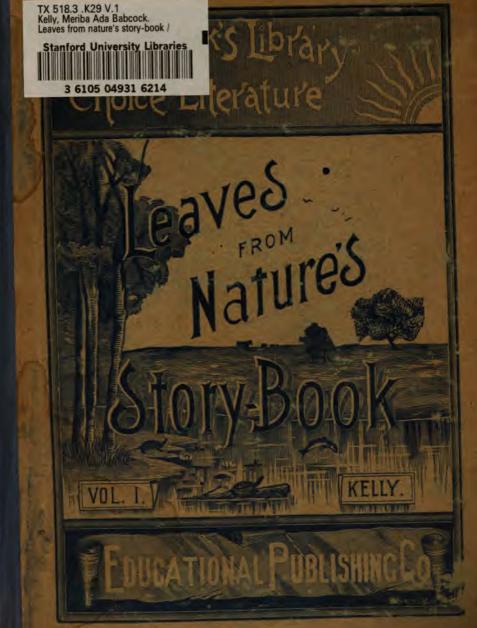
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LEAVES

FROM

NATURE'S STORY-BOOK.

VOL I

By Mrs. M. A. B. KELLY,

State Normal College, Albany, N. Y.

Author of "A Volume of Poems," etc.

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SUGGESTIONS TO TEACHERS.

The author has deemed it unnecessary to place at the close of each story-lesson a set of studied questions. It is hoped that the subject-matter itself will prove of sufficient interest to awaken in the minds of both teacher and pupil a desire to consider and discuss the essential points presented.

Questions will naturally arise concerning the definition of words, terms, etc., and there will, perhaps, be a tendency on the part of some to inquire minutely into details.

The teacher should therefore make a careful study of each lesson before presenting it to her class as a supplementary exercise.

Natural History necessarily includes subjects in which children are deeply interested, and concerning which they are ever ready to ask questions.

In fact each querist, with his how and when, Would puzzle Huxley, o'er and o'er again.

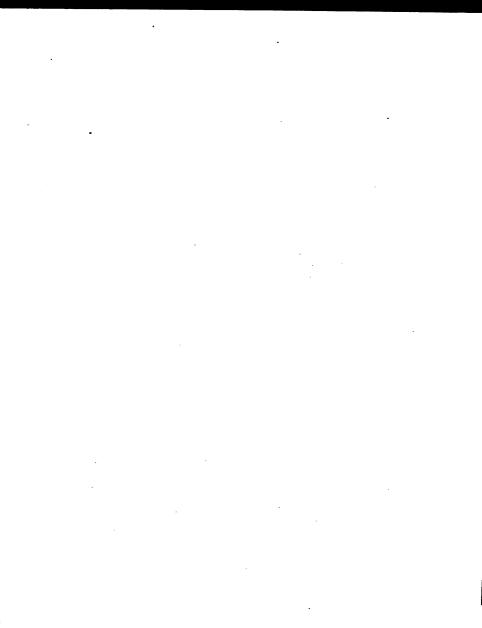
How necessary, then, that the teacher prepare herself as thoroughly as possible to meet these earnest inquiries; for with her rests largely the responsibility of either encouraging or checking the spirit of research,—a spirit that, if properly directed, will lead on to the fullest measure of success.

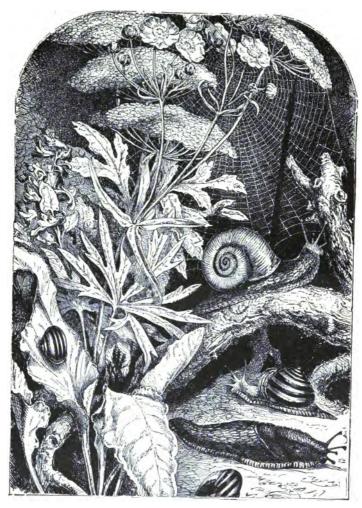
A cautious hint here, a timely suggestion there, and the way is opened that shall bring the child into a condition of hearty sympathy and a close communion with nature and nature's God.

These suggestions are briefly given with a belief that the true teacher will recognize their importance, and accept them in the same cordial spirit in which they are submitted.

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SNAILS AND SLUG.

LEAVES FROM NATURE'S STORY-BOOK.

I.

TO THE LITTLE PEOPLE.

I have been walking in the woods, and about the fields.

Everywhere that I went, I saw the leaves of a very large book scattered all along my way.

The name of this volume is "Nature's Story-Book" and it is filled with pretty tales about animals, and plants, and stones.

Every day that I walked out, I picked up a few of these pretty leaves, until now I have enough of them to make three small volumes for you!

I hope you will like them so well that you will go forth in search of other leaves for yourselves.

You need not go far; you will find them in the garden, in the fields, in the forests, along the way-side, floating on the brooks, the rivers, the lakes, and even on the rough waves of the restless sea.

Gather up these leaves as you go along, and by and by you will have enough of them to bind into a volume for other children to read.

You must not expect to find real, printed leaves, that are blown about by the winds here and there.

This is not the kind of book that I mean.

Let me explain.

As you look about you in your walk, you will come upon rough, hard rocks, smooth pebbles, shining grains of sand, and perhaps bright crystals such as you see in costly pins and rings that are worn as jewels.

From these rocks, and stones, and gems, you can learn many a lesson about what is hidden away in the earth on which we live.

At another time, you will gather a bunch

of spring violets, a dainty fern, or a few stems of moss. And here you will have a lesson in plant-life; and the pretty plants themselves will be your teachers.

Some day when you are on your search, you may chance to find a nest full of tiny eggs; and if you take care to keep well hidden among the trees, you will get a peep at the mother-bird as she flies to and fro from her nest.

Near by, you will see nimble squirrels, and other small animals playing at hide and seek in their leafy homes.

Now will not the sight of these things be worth more to you than anything that you can learn about them from books?

Do not be content, then, with these few leaves that I have gathered up for you; but look about you every day, with wide-open eyes, until you have found out for yourselves all that it is possible to learn from the choice volume that we have named Nature's Great Story-Book.



GOOD ADVICE.

One morning, a mother cat called her three little ones together, and said:

"I want you all to be very quiet; for I am going to give you some good advice."

At this, Frisky; the largest of the three kittens, . left a ball that she was rolling over and over on the carpet, and began to lick her lips with her little rough tongue.

"I want some of the good advice, right away," she mewed, "for I am so hungry."

"It is not anything to eat, that I have to give you," said the mother.

"I am only going to talk to you, and show you how to keep out of harm's way when you are hunting for food."

"Oh, I have heard all about that before," mewed Frisky, and she skipped back to her ball.

"I shall go a long way off, to-day," said the mother cat, "for I think I know where I can catch a fine, fat mouse.

"And after I am gone, you must all keep close together, and play about, till I come back.

"But before I go I want to give a short lesson in the use of your limbs.

"Come now, let me see each of you hold up your fore-paws."

In an instant six small, velvety paws were held up in the air.

"How many toes on each paw?', asked the mother.

"Five," mewed the kittens in one voice.

"Very good," said the mother.

"Tell me now, of what use are these paws to you?"

"To play with," mewed Frisky, letting her paws drop, and starting after her ball again.

"To catch rats and mice with," said the other two, still keeping their paws in the air.

"White-foot and Downy are both of them right," answered the mother.

And with that, she gave Frisky's ears a good box, first on one side of her head, then on the other.

"Now stand on your fore-paws and raise your hind feet in the air."

With that, up flew six small, white feet.

"How many toes on each foot?" asked the mother cat.

"Four," again mewed three baby voices all at the same time.

"Now you may all lie down by me, and listen to what I have to say.

"You are aware that you all have a sharp, hooked claw at the end of each toe.

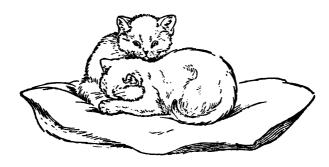
"Be very careful, always, to keep these claws well drawn in, under your soft fur, when you are walking; and step softly on the pads of your little feet.

"Never go anywhere, when it is very dark, without first feeling your way with your long, stiff whiskers; do not think that your eyes will serve you when it is too dark; for no animal can see without a little light.

"When you get the scent of a rat or a mouse, steal along, a step or two at a time, and then crouch down, and get ready to spring.

"As soon as you are sure of your game, pounce upon it, like a flash, and give it a sharp stroke with one of your fore-paws. After that, you can toss it about, and play with it, till you are ready to crush its bones with your sharp teeth.

"But you are all of you too young, now, to go hunting yourselves; so stay at home like good children, and I will bring you a nice mouse for your dinner." Then the mother cat combed each one of them carefully with her rough, horny tongue.



These rough points on pussy's tongue all turn backward, so that she can make her kitten's fur, as well as that of her own, very smooth and glossy; she often uses her tongue also to scrape the meat from off a bone, or in lapping up milk.

Finally, she bade them all good-bye, and promised to tell them a story on her return, about their fierce, wild cousins that spend all their lives in the woods.

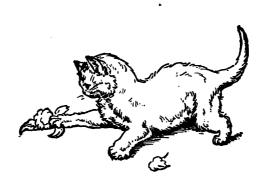
As soon as she was out of sight, Frisky said, "You may stay here in this old, poky place, if you want to; but I shall go where I please."

"Then we will tell mother," mewed the other two.

"I don't care," answered Frisky, "I can catch my own mice; and besides, I would rather have a rat.

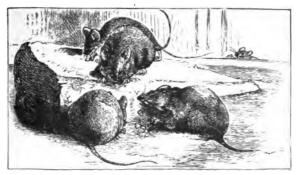
"And as for the story about our wild cousins, what do I care for them?

"I shall never see them, and they will never see me; so good-bye, for I am off to seek my fortune."





FIELD MICE.



THE COMMON MOUSE.

PUSSY'S COUSINS.

When the mother cat came home, she brought a large, fat mouse in her jaws.

He was a pretty mouse, with soft, gray fur, small, silky ears, and a long, smooth tail.

He had four little toes, and a mite of a thumb on each of his fore feet, and five toes on each of his hind feet; his toes were long, and there was a tiny nail on each of them.

His eyes were bright, his snout was pointed, and his front teeth were sharp and strong; with them he could gnaw through a thick board. Like pussy and her babies, he wore a few short, stiff hairs about his mouth.

There are a good many kinds of mice, and I will tell you about some of them, now.

The Deer mouse runs about the woods and the fields in summer time; but when cold winter comes on, he steals into barns and other places, where he can find plenty of grain.



The Meadow mouse makes many winding ways through the grass; these are the roads that lead to her nest.

The spry little Jumping mouse can leap right up into the air; it has long hind legs, and a very long tail. Far away, across the sea, lives the small Harvest mouse.

This pretty little thing makes a neat round nest of grass blades, and ties it fast to a reed or to a stalk of corn.

There it hangs, like a little bird's nest!



JUMPING MOHSE.

The sleepy little Dormouse (Dor-mus) lives over the sea, too; it makes a warm nest of moss, in hollow trees, and lays up a store of fruit and nuts; these are to eat in the spring.

It has a long, hairy tail, and when winter comes on, it rolls itself up into a little ball and goes to sleep. But the mouse that pussy brought home, was a common "nibbler" such as are often caught in traps.

And after they had all mewed for Frisky, till they could hardly make a loud noise, they sat down to dinner without her; and very soon not a hair of poor mousie was to be seen.

When their meal was over, they all took a nap; and then their mother told them a story about their wild cousins.

And now I will try to tell you the same story that we will suppose she told to them.

Pussy has quite a number of wild cousins, but the strongest, and the most fierce among them all is the Lion.

He is called the King of Beasts; and he is well named; for when he shakes his shaggy mane, lashes his sides with his tail, and roars as loud as ever he can, then all the other beasts within sound of his voice tremble with fear.

The mother-lion has no mane; but she is quite as fierce as he. Yet she is very kind and loving toward her babies; and when she lies down, they jump upon her back, and play around her, without fear.

The lion wears a tawny* coat, and at the end of the tail is a thick tuft of hair.



SKETCH OF LION'S HEAD.

The Royal Tiger is another fierce cousin that pussy has a right to claim; this animal is as large as the lion. He wears a bright, tawny coat striped with black; and his tail is also ringed with black bands.

^{*}That is, of a dull, yellowish brown color.

The under part of his body is white; he is a handsome animal, but very cruel.

He does not tear his prey into pieces, till he has first sucked its blood.

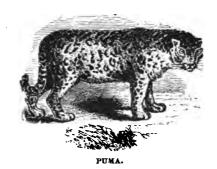


THE TIGER AT HOME.

There is a very fierce animal found in our own country that wears a coat of brownish yellow, marked with black rings; and in the middle of each ring is a dark spot.

This is sometimes called a tiger, and it is also one of pussy's forest cousins.

It feeds on fishes, birds, and other animals; and it can either swim, or climb a tree when in search of its prey.



The Puma* wears a dull, brownish yellow coat, without stripes or spots; it hides itself in trees, and springs upon its prey.

The Leopard is of a pretty fawn-color, having rows of black spots on its body and tail.

The sharp-eyed Lynx can see things where there is hardly a ray of light.

^{*} Puma, sometimes called Panther, and sometimes Catamount.

It has a short tail, and there is a thin tuft of hair on the tip of each ear.

There is one kind of Lynx that is sometimes called a Wild-Cat.



PANTHER.

Now from what I have told you of Pussy's wild cousins, I hope you will be able to call each one by its proper name, should you ever see them in any park or garden where they are kept in cages for a show.

"But what became of little Frisky?" I think I hear you ask.

I will tell you.

The poor kitten soon had cause to be sorry that she ever ran away from her friends.

But at last, a little girl, named Mabel, found her half starving, by the roadside, and carried her home.

She grew to be a handsome cat; and little Mabel tied pink ribbons around her neck and made a great pet of her.

Frisky learned to be a fine hunter, and never did a rat or a mouse get away from her sharp claws.

But I am sorry to say that she sometimes tried to get at little Mabel's pet birds; and she would watch the robins in the trees with her greedy, green eyes till they hardly dared to leave their nests.

And now if you read the poem on the next page you will learn about some of the very bad things that Frisky did.





WHAT FRISKY DID.

"I hate my cat," said Mabel Gray,
As on a grassy knoll she lay
And brushed the falling tears away
That marred her pretty face;
She turned and heard a stealthy tread,
"Well, what new mischief, now," she said,
"You need not shake your guilty head,
You know you're in disgrace.

"I'd like to tie your cruel claws, And pry apart your wicked jaws, And look right down your throat, because,
I know what I should see—;
Three little birdies half fledged out,
You need not 'ma-ow'; I have no doubt
That you are on another scout
The way you watch that tree.

"Just hear that poor bird-mother moan, You might have left her nest alone; Your heart is harder than a stone,—
Don't blink your great green eyes.
Have you forgot the toad that died
Because you tore his warty hide,
And bit him on the head beside?—
Your meanness I despise.

"And my canary, too, last spring,
You almost broke its pretty wing,
And nearly killed the frightened thing
Before its cries I heard;
You'll not get any milk to-day,
No wonder that you s-n-e-a-k away,—
Scat! scat! oh dear! help, help, I pray,
She's caught the mother-bird!"



ROVER'S RELATIONS.

Rover, my good fellow, come here, and put up your fore-paws.

There! Now count your toes with me.

"Bow-wow-wow-wow," says the dog.

That is right; you have five toes on your fore-paws; and if you count the toes on your hind feet you will find four toes on each foot.

You have a sharp claw, too, on each toe; but you cannot hide your claws as puss hides hers.

There is no need of it; for you do not steal about at night, to hunt for your food; you can find, in the broad daylight, all that you need.

But you have some cousins that are even more sly than puss, and one of them is very savage.



FOX.

Your sly cousin is called the Fox; but he does not look at all like you.

He has small, pointed ears, a pointed snout, and a long, bushy tail; and some of his family wear handsome fur.

But they are all very much afraid of you,

my good Rover; for they know that you hate a thief.

And so when your cousin Fox steals into the yard at night, in search of a fat hen, if he but hears you growl, away he speeds to a safe hole in the ground where he hides himself from sight.

And what do you suppose he has laid up there for his lunch?

Oh, a fine store of choice bits, such as birds, rats, mice, and even snakes.

I do not wonder that you hang your head with shame, Rover, to hear such a tale as this.

But your savage cousin, the Wolf, is much more to be feared than the sly fox.

His teeth are very sharp; and when he gets hold of his prey, he soon tears the flesh from off the bone.

When Wolves join themselves together in a pack, they are then too strong even for you, my brave dog. But if you were to meet one alone in

the woods, I am quite sure that he would run from you in great fear.



WOLF.

He is much more brave when he has four or five others with him; then they make the woods ring with their howling noise.

And you have another cousin* that lives far away, across the sea; but he looks more like the fox, than he looks like you.

And he, too, takes a band of others with him when he prowls about at night.

They are greedy beasts and very fond of spoiled meat.

[&]quot;The Jackal. (Jak'-al.)

Ah, now you lick my hand, to show me that you know what I say.



COLLIE DOG.

But of all the dog family, Rover, you are the bravest and the best.

How very smooth your tongue is! not at all like the rough tongue of pussy, or of her wild cousins.

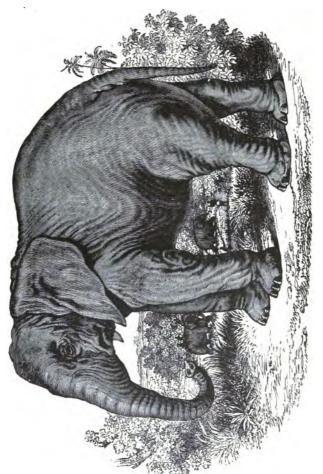
And when you drink water or milk, you put

out the end of your tongue; but puss and her family turn the tip of the tongue backward when they drink.

Ah, well, Rover, I am glad that you are a dog; for I can trust you, both by night and by day; and that is more than I can say of your wild cousins.



ST. BERNARD DOG.



ELEPHANT.



ZEBRA.

AT THE MUSEUM.

A bear and a zebra once met in a show,

But they both were locked fast in their cages;
"Halloa,"* cried the zebra, "friend Bruin, halloa,

Why, we two haven't spoken for ages!"

"The fault is not mine," said the bear with a growl,

"For this bedlam is not of my seeking;

That wolf, at my right there, does nothing but howl,

And this parrot will never stop shrieking.

(*Hal-lö'.)

"The old, clumsy elephant travels about,

While his trunk in the air he keeps switching;

And that cage of snakes, with their forked tongues run out

Have just set all my poor nerves a twitching.

"But you, my fair zebra, I long to embrace,
For I love you, as I love my brother;
And should we some day, meet alone, face to
face,

Then I'd hug you" — "To death," said the other.



BEAR.

THE HARE AND THE RABBIT.

One day a hare and a rabbit met each other in a dark forest.

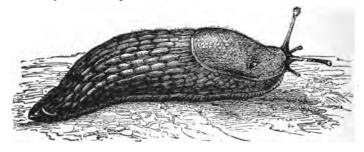
Now although these two animals are own cousins, they do not want to be friends.

They each of them have large eyes, long ears, and a very short tail; and both have the upper lip divided in the middle.

Some of these animals change their dark summer coats, as winter comes on, and wear thick, soft fur, that is almost as white as snow.

Like the cat and the dog, they have five toes on the fore-feet, and but four toes on the hindthey were quite long; at the end of each horn was an eye; but the feelers were very short.

Then she crawled, little by little, almost out of her shell. As she moved along, she shed from her body a sticky fluid, called mucus.



A SLUG.

This is a kind of very thin glue; and it makes the path of the snail quite slimy, so that she can move along more easily. The creeping part of a snail's body is called its foot; and the foot also sheds mucus, as it crawls about.

This snail's shell was her little twisted house, five stories high; each story is called a whorl.

These whorls are placed one above another and form a kind of winding stairway that leads to

the top, or "spire," as it is called. The shell was smallest at the top, because that part was built first; for when she was a baby snail, she had a shell of one whorl and a half to begin life with.

That was as large a house as she needed then.

As the snail grows, its house also grows; and whorl after whorl is added to it; for the shell is a part of itself.

Besides the shell, it also wears a thin mantle; and through a hole in this mantle, the snail breathes.

Now Mistress Snail seemed to be very proud of her fine house made up of whorls with a little pointed spire at the top; and where she could go in and out as she pleased.

The color of her house was of a dirty white; but the sides of the small doorway were pure white.

Just before she crept out from under the log, she laid a number of small white eggs in a little hole in the earth.

"There!" said she, "the babies that hatch from

my eggs, will, every one of them, have a home of their own."

Now the slug heard all that the snail had said; for both snails and slugs can hear, see, feel and smell.

In fact, they would be pretty nearly alike, if the slug had a shell.

She had crawled up to a broad leaf that hung just over the snail's house; and to this leaf she glued a thread of mucus, and let herself slowly down till she reached the spire of the shell.

"Who is walking over my roof?" asked Mistress Snail.

"Nobody but a homeless slug," was the reply; and with that she crept down and pushed her horns right into the open door of Mistress Snail's house.

Now this was not polite; and the slug must have known it; for when the snail looked out at her door, the slug hid her head under her mantle.

"Pray, what do you want?" asked the snail.
"I cannot invite you in, as there is room for but one in the house."

"I want to show you that a mantle is as good as a shell;" answered the slug.

"How can you prove that?" enquired the other.

"A few moments ago," said the slug, "I was crawling on that twig above your house; and when I was ready to come down, I made a rope of mucus and here I am.

· "Could I have done that with a great, heavy house on my back?"

"My house is no more of a burden to me than your mantle is to you," said the snail.

"They are each of them a part of our bodies; and one might as well talk about his skin being too heavy for him to carry; but you will own, that a house is a much safer place than a mantle."

"I don't know about that," said the slug, "I can glue my body to a wet board, and make myself so much like it that no one would know I was there."

"I would like to see you do it," said the snail.



SNAILS AND SLUGS.

WHICH IS THE SAFER? PART II.

As they talked, they also walked along together at "a snail's pace," and pretty soon they came to some fresh green leaves.

Here they stopped, and began to eat, for they were both of them very hungry.

Now you must know that a snail's mouth has the jaw on the upper lip.

It is shaped something like a half ring or circle, and is set full of notched, horny teeth.

With this jaw, they can cut off the stems and leaves of plants; and sometimes they do a great deal of harm in the fields and gardens.



TEETH OF SNAIL

1. l., lateral rows: c, central rows.

They have also a mite of a shining tongue, and that too, is covered all over with fine, horny teeth.

With this tongue they lick and scrape away the plants on which they feed.

So while they were eating, they did not talk at all; because they had to use their tongues so much in scraping up their food.

But when they had finished their meal, the slug said that she felt a little chilly, and so she drew herself partly under her mantle.

"If you begin to feel chilly now, what will

you do when cold weather is here?" asked the snail.

"I shall creep into the ground, and cover myself up with my mantle;" replied the slug.

"Have you laid any eggs this spring?" enquired the snail.

"Oh, yes," answered the slug. "I laid a large number in a safe place, under some damp leaves."

After a little while, the snail spoke again.



OUTLINE OF SNAIL.

"Poor thing!" she said. "Cold winter coming by and by, and you have nothing but that small mantle on your back; why, I wear my mantle all the time in the house, and I do not find myself any too warm, either."

"I am not so very poor," replied the slug.

"Inside of my mantle there is a thin scale of shell; and that helps to make me both safe and warm."

"Well, it is a good thing to be content with one's lot," answered the other.

"I have some cousins not far away, in a small pond; and they really like to live in the water.

"Of course they must have air; and whenever they come to the top of the pond to get a fresh breath, they have to bring their houses up with them.

"And I have other cousins that live in the salt sea, and they like it.

"But as they have lived there ever since they were born, they do not know any better than to like it."

"And how do they get air?" asked the slug.

"The most of them are water breathers," replied the snail; "they get air from the water as the fishes do."

"Their eyes are very close to their heads, and not at the tips of their horns, like ours; still they seem to be very contented and happy where they are.



SEA SLUGS.

"But as for me," she added, "both for safety and for comfort, too, give me a good whorled shell, and a quiet place under a log or a stone."

"And how do you shut your door in the winter?" enquired the slug.

"I make a thick lid of mucus, that is four or five layers deep; and when it is dried, it is so hard that my enemies cannot break through it.

"Then, after I have shut myself in, I go to sleep; and when I come out in the spring; I push the lid open with my foot.

"But I could stay in my house four or five years and not starve to death, if I chose to do it."

"How do you know?" asked the other.

"Because some of my family have tried it," replied the snail. "And what they can do I can do.

"But did you not hear a noise? I think we had better hide ourselves."

With that, she drew herself quickly into her shell, and the slug lay down very flat on a piece of bark, and partly covered herself with her mantle.

Pretty soon the snail hear a rap-tap-tap on the spire of her shell.

"Can that be the soft foot of the slug?" said she to herself.

Then she called out, "Who's there?"

In another minute, there came the beak of a bird, right down through the roof of her house!

Then it seized the poor snail, and tore her away from her house and home.

After a while, the slug crept slowly out from under her mantle, and stretched her long horns toward the empty house of the snail.

She bent them up and down, and waved them right and left, a number of times, before she could believe her own eyes; then she said:

"Well, which is the safer, — a mantle or a shell?"





A KING AND HIS CASTLE.

I know a fierce little king that lives all alone in his castle.

When he travels about he carries his castle on his back, after the manner of the snail.

But his castle is much stronger than the shelly house of the snail.

It is made up of many thick, horny pieces joined together.

The outside is painted a shining black, spotted here and there with bright yellow.

When he walks, he puts two short, stumpy legs out at the front door, and two more out at the back door.

On the ends of his toes are very sharp claws.

He has a long head and a long neck, and his snout is horny like the beak of a bird.

He is fond of small animals that live in the water; and when he eats he darts his head out at the front door, and snaps up his food.

His feet are made for swimming as well as for walking, and he is even more at home in the water than anywhere else.

What a strange thing! A water king in his castle. How can that be?

Now I will tell you all about it.



SNAPPING TURTLE.

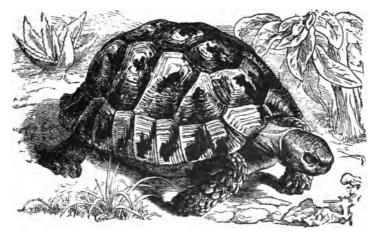
This little king has a very common name; he is called a Mud Turtle, and sometimes Snapping Turtle.

If you will visit a pond, or some small stream, you will see him, and may be a dozen more like him, resting on a log or on a large stone.

Throw a little pebble into the water.

Down they plunge, out of sight!

There are some turtles so large that they will pull swimming-birds down under the water and make a dinner of them.



TURTLE.

The jaws of some kinds are so strong that they will bite a large stick in two.

The mother turtle creeps up to the shore quite early in the month of June.

Then she scoops out a place in the sand with her hind feet, and lays her eggs. There are a good many of them, and they have thick shells. She covers them all over with sand, and goes back to the water.

After a while the hot sun hatches them out.

As soon as the baby turtles are born they creep into the water; they know where they belong, without telling!



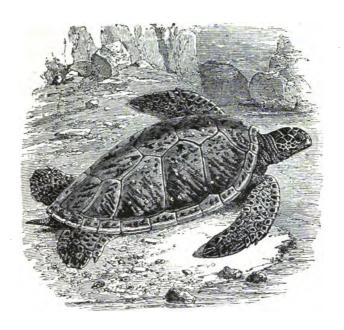
WOOD TORTOISE.

Some turtles live on the land, and feed on soft plants; their feet are not made for swimming.

Sea turtles are very large; and some of them will swim out a hundred miles, and sleep on the waves, when they grow tired.

The green turtle is one of this kind, and its flesh is used for soup.

There is a very large turtle that has a bill shaped like the beak of a bird.



HAWKSBILL TURTLE.

It is called the Hawksbill, and from its shell many beautiful things are made.

The pretty tortoise (tor'tis) shell combs are made from the plates on the turtle's back.

Our little king and his relations are called by different names.

Sometimes they are called Turtles, sometimes Terrapins; and in some countries they all go under the general name of Tortoise.

It is thought by some that only those that live in the sea should be called Turtles.

Land turtles burrow in the ground when cold weather comes on.

There is one large sea turtle that is of great value.

Its eggs and flesh are good for food; and its fat is used for oil, and even for butter.

The deep shell on its back is used for troughs (tröfs) or gutters, for tubs, for boats, and sometimes for the roofs of small houses.

This large turtle might well be named "a king in his castle!"



THE SEA-HORSE.

SEA WONDERS.

I was walking along the seashore one day, when I met a boy with a small basket on his arm.

This boy's home was on one of the sandy islands of Lido* (Leédö).

He made his living by picking up shells, seaweed, and the bones of small fishes; these he

^{*}In the Adriatic sea.

offered for sale to visitors who came to the beach. Among other queer things that he had in his basket that day, was the skeleton of a sea-horse. (A skeleton is the bony framework of an animal.)

"What! Could a boy carry the skeleton of a sea-horse in a small basket?"

Oh, yes. He could have carried the skeleton of fifty sea-horses in his basket; and then it would not have been full.

A sea-horse is a very small animal, and I have never seen one that was over six or eight inches in length, at the most.

It is a beautiful creature, clad in shining armor; and as it glides through the water, with its head looking straight forward and its body erect, it does indeed seem as if it might be the fairy pony of some water sprite.

The head and the upper part of the body have something of the shape of a horse, but the lower part is like that of a fish.

Sometimes two of these pretty creatures will

lock their tails together and swim back and forth in the water as if they were having a sort of waltz.

The eyes of these animals are large and full; and strange to say, they do not work together.

One eye may be looking in a certain direction, while the other is staring at something else!

The mouth of the sea-horse has no teeth; it lives on fish-eggs, very small animals, and things of that sort.

Its tail is without a fin; and yet it is classed among the fishes; because in many things it is like a fish.

As soon as the little mother sea-horse lays her small eggs, the father puts them into his pocket.

This pocket is called the "brood-pouch," and that is a good name for it, too.

For when these eggs hatch out, what a brood of young ones he has in his small pouch; there are often as many as two thousand of them! Happily these young sea-colts have no hoofs, so they cannot kick one another.

But pretty soon the little sea-horse father coils the end of his tail round some stem or reed, and presses hard against a rock or a shell in the sea.

Then the young sea-colts begin to tumble out of their brood-pouch into the water.

Now they must swim about and look out for themselves; the father has taken care of them long enough.

But where is the little mother?

Oh, she is swimming about with some of her mates, and having a good time of it.

After she has laid her eggs she gives no farther heed to them.

If she should meet one of her own babies in the water, she would not look at it, no, not even with one eye!

And now I will tell you something about the Sea-Cow.

This animal is not a fish; although it has a

long, fish-like body, and a somewhat fin-like tail. The body of the Sea-Cow is often fifteen feet in length.

It has no hind limbs, and its two fore limbs look like finny paws.

In these paws it often carries its babies about, hugging them close, something as a little girl carries her rag dolls.

It has strong, flat teeth, and feeds mostly on plants.

Sea-Cows move in flocks, and are found at the mouths of large rivers.

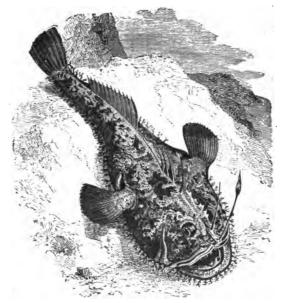
They creep along the shore, and feed upon its grassy banks. But they are clumsy looking animals, as you may suppose.

There are some kinds of fishes that are called Sea Cats; and there are others that are called Sea Dogs.

Again, there are Sea Frogs and Sea Bats, Sea Bears and Sea Lions.

These animals are so called, because in some

ways they look like animals of the same name that are found on the land.



FROG-FISH.

But the prettiest of all is the little Sea Hare; this animal is own cousin to the slug; but the two do not look at all alike.

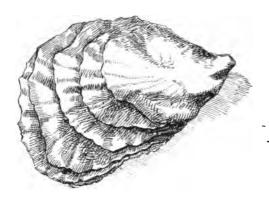
For the colors of most Sea Hares are very beautiful, being of a rich, creamy yellow spotted with black.

They are harmless creatures, but when in fear of danger they hide themselves under a cloud of dark purple ink which they throw out.

It would fill many volumes to tell you all about the Wonders of the Sea.

But I hope that some day you will be able to see these things with your own eyes; for when you read about them in books you have to see them through the eyes of others.





OYSTER SHELL, SHOWING RIDGES.

WITH CLOSED DOORS.

Safe in his strong, limy shell, lies the oyster; and strange to say, the floor of his house is deeper than the roof.

The floor is the oyster's cradle; and in it, he lies perfectly still, all the days of his life.

How many years does he live?

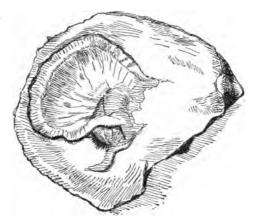
Count the large ridges on his roof, and you will see.*

His house was built both from the top of

^{*}The teacher should make this an object-lesson.

the roof downward, and from the bottom, upward.

When he was a baby he needed very little room, and his roof was weak and thin.



OYSTER OPENED - SHOWING MANTLE.

The back door of his house is made fast with a tough, horny hinge.

The front door is kept closed by a latchstring, inside.

This latch-string is called a muscle; (mus'l) it is hard and strong, and shining white.

The oyster lies wrapped up in a soft mantle; and this mantle is finely fringed at the edges.

The fringe is of a dark color; it helps to build the house.

"How is that?" you ask.

I will tell you.

The cloth of which your coat is woven, is made up of two kinds of thread.

One of these threads is called the warp; the other is called the woof, or filling.

Now the house, or shell, of the oyster is made up in some such way.

The warp is a strong thread of mucus, or animal glue that comes from his soft mantle.

The other thread, or filling, is made up of the merest atoms of lime that float about in the seawater.

The very fine fringe-like hairs of the mantle are the busy little fingers that weave the strong framework of the house. As the oyster grows, the framework becomes stronger and thicker.

And as the house grows broader and larger, the latch-string moves farther forward.

If you look carefully, you will see the marks inside the shells, that show how the latch-string or muscle followed the shell as it was being made larger.

Look at the edge of the oyster's mantle, and you will see that its color is indeed quite dark.

All the bright spots and the most beautiful colors that are found on ocean shells are made by the hairy fringe of the mantle that wraps the little creature inside.

As I told you before, the oyster lives all alone by himself, and keeps his front door closed most of the time.

But sometimes a sea-snail or some other animal tries to open the strong front door, and finds it firmly closed.

Then he crawls upon the roof, and bores a hole straight down through!

As soon as he has made a hole large enough, he pushes in his snout, and draws the poor helpless oyster right up out of his deep cradle.

Is he not a bold house-breaker? He knows just how to go to work; for he carries his sharp drill with him everywhere; in fact it is a part of his own body.

But since the oyster lies still in his shell, how does he get food to eat?

Open the mantle very carefully, and inside you will find four thin folds.

Each fold has a ruffled edge; and the border of each ruffle is very finely notched.

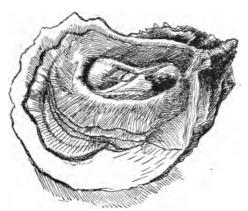
These folds are called the oyster's gills; he breathes through them

By means of the gills, fine bits of waterplants, and the very tiniest of animals are carried to the oyster's mouth.

This mouth is fed by four soft, creamy white flaps; they are sometimes called lip-fingers.

Is it not strange that the oyster has a mouth and four pretty lip-fingers, and yet he has no head?

The mouth is a small slit, with two lip-fingers on each side of it.



OYSTER OPENED - SHOWING LOWER HINGE, ETC.

But if the animal has no head, he has a heart; and I think that a large heart is quite as good as a large head, don't you?

He has also a liver; that is the soft, dark part of the oyster that we like best for food.

The eggs of the oyster lie in the soft gills or folds of the mantle; and when they are thrown out of the gills into the water, there are so many of them that they look like a milky cloud.

Each baby oyster is about as large as the head of a pin; but it has its own tiny shell, and it can swim easily about.

By and by these babies fasten themselves to a rock or to some other safe thing, and then their swimming days are over!

If you look at a "long clam," as it lies in its open shell, you will find that it is like an oyster in many ways.

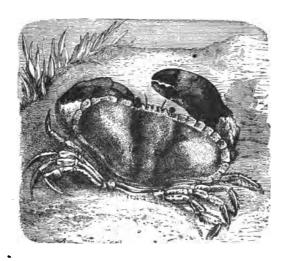
But the mantle is closed; although there is a small slit in its front edge, through which the clam puts out its thick, stout foot.

For like the snail, the clam can move about; and it often burrows deep into the mud.

There are also two other small slits in the mantle of the clam.

They open into two little tubes; one of the tubes brings water to the gills; and the other tube carries it out.

Now you have heard something about the way in which the oyster and the clam keep house with closed doors.



COMMON CRAB.

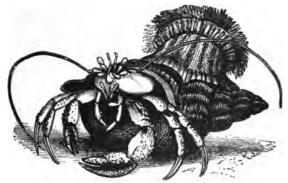
But there are many other shell-fish that live in the sea and along the shore, that I want you to learn about, for yourselves.

There are the crabs that live in stiff, crustlike shells; and as they grow, they moult, or cast off their crusty coats.



KING CRAB.

But the new, thin crust of their bodies soon hardens, and then they are in a fine strong house again!



HERMIT CRAB.

Their eyes are set on long pegs, and they can draw them backwards out of sight; these pegs are often called eye-stalks.

The queer looking King Crab is very large; his back is shaped like a horse-shoe, and his long tail is like a spike.

And there is the Soldier Crab, with eight legs and two hands; but one of his hands is much larger than the other; this is his fighting and working hand.

His mate has small hands, and they are both of the same size.

He is sometimes called the Fiddler Crab, because he holds his large hand in such a funny way.



COCOANUT CRAB.

The Hermit Crab is a poor homeless thing; he lives in a borrowed shell; and when one shell becomes too small, he looks about for another. Hermit Crabs live in "dead" or empty shells.

And when they do not find one that is empty, they fight with one another; and the crab that wins the battle takes the shell, and then he backs himself right into it!

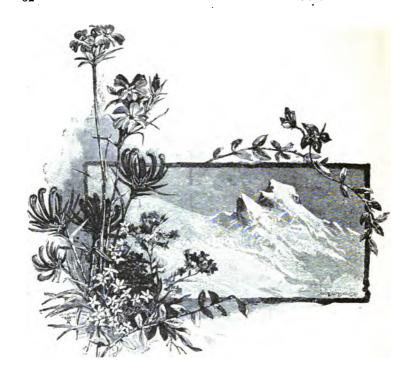
Wherever he goes, he drags his house with him; for he has no other cover for his naked back.

Crabs roam along the shore in search of very small animals to eat; and sometimes they feed on sea-weed.

I am very sure that if you were to walk along the beach, when the tide is out, you would think that King Crab and all of his friends had met with shipwreck, and that every one of them had been drowned.



AN OYSTER PARK.



THE GOOD FAIRY.

Little Joan dwelt with her mother and sister in a pleasant Swiss valley, not far from a large town.

They lived in a small chalet (sha-la) that had but four rooms in all.

In one of the lower rooms they kept their goat, and a few hens.

In the other room, was a stone fire-place, a small table and a rough bench.

In one of the upper rooms, the family slept; in the other, Joan's sister sat, and wove threadlace from morning till night.

The mother worked in the fields and about the garden.

The house had but little care, there was no time for it.

Joan had rosy cheeks, blue eyes, and fair golden hair. But her sister, Lizette, was not pretty; she had a round, hunch back, and her face was very thin and pale.

Every day, Joan stood by the wayside, with a small basket of lace in one hand, and a bunch of fresh flowers in the other.

These she offered for sale to the people who went up the mountain to see the great ice-fields.*

^{*} Glaciers (Glash-ers.)

Sometimes as she held out her lace or her flowers, she would sing a pretty Swiss song.

But very often she would come home, weeping, because she had made no sales.

One day the mother fell sick, and within a week she died.

Then poor Joan's troubles began; she must work now, harder than ever before.

She arose every day, with the dawn, and roamed over the fields and hills in search of flowers.

She would even follow her goat to the top of some of the highest rocks in the mountains.

For there she found the white, woolly Edel-Weiss. (a-del-vis.)

The meaning of this word is Noble White; it is found among the high mountains of the Alps.

One day Joan came in from her ramble full of joy.

"Look, dear Lizette," she said, "I have my apron full of flowers that are smeared all over with golden dust."

Joan had never seen any gold dust; but she had seen shining pieces of gold, and she thought that the dust of which they were made, must be very fine and yellow.

"Now we are rich," she said, "and we will go to the large town and live.

"You will not have to weave any more lace and I can go to school.

"Oh, that our dear mother were here, to share our fortune with us!"

Lizette looked at the flowers, and slowly shook her head.

She had once been to a night school in town, and had learned many things there about plants, and how they grow.

So she called little Joan to her side; and pointing to the centre of the flower, she said:

"Do you see those short, slender threads, with a mite of a knob on the top of each one? Each knob is a little case, and it is full of this yellow dust." Joan looked closely.

"I see them," she said; "and they have thrown the golden powder all over that coarser thread in the middle."

"That large thread, in the centre, is hollow, and it has, at the bottom of it, a mite of a cup, full of little seeds," replied Lizette.

"But these seeds could not grow without some of the golden powder in the small cases on the top of the slender threads.

"Now as this large thread, in the centre of the others, is hollow, the yellow grains soon find their way to the little seed-cup below."

"I am afraid that it is not real gold dust at all," said Joan with a sigh.

"No," replied her sister, "it is not gold dust at all, it is a powder called pollen; but it is worth a great deal more than real golden powder.

"For without it, we should have no seeds; and without seeds we should have no plants."

Joan did not reply; and her eyes were full of tears.

"Would you rather have gold dust than flowers?" asked her sister.

Joan thought of her mother's grave in the valley, and of the pretty flowers that were growing there.

She had planted a white star-flower at the head of the grave, and a low, pink bell at the foot.

These little blossoms she had named Lizette and Joan.

If there were no pollen to make the seeds grow, there would be no flowers; and her mother would be so lonely without them, Joan thought to herself.

And at this thought, two large tears stole down her cheeks.

"There, there! Do not cry, child," said Lizette, "go to the foot of the mountain with your flowers, and may be some good fairy will change your yellow pollen to golden grains."

Joan dried her eyes and took up her basket of lace with a sigh.

She tied her flowers together in a pretty bunch and carried them carefully in her hand.

By and by the travelers began to come down the mountain from the fields of ice. Among them was a richly dressed lady that sat in a chair.

Her chair was carried by two strong men; and when she came to a turn in the path where she could see Joan, she asked the men to set down her chair.

Then she spoke to the child in French; this greatly pleased little Joan, and she made her a very polite reply.

For although she was a Swiss maiden, she could speak her thoughts in French very well.

The lady asked little Joan many questions and the child told her all the story of her sad life.

She even told her about the golden dust, and how sorry she was to find that it was only the yellow pollen of a flower. At this the lady smiled; then she bought, not only her flowers, but her basket of laces, too!

In return for them she put into each of the child's hands a shining gold coin.

Joan could hardly stop to drop a low curtsy, and to speak her thanks, she was in such haste to get back to her home.

As soon as she entered the door, she cried out:

"See, see, dear Lizette, what I hold in my hand! Would you believe it?

"At the foot of the mountain, I met the good fairy; and she has, indeed, changed the yellow pollen dust into shining gold."





RARTH-WORMS.

MY LITTLE GARDENER.

Come with me for a short walk, and I will show you my little gardener.

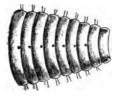
He has turned up the earth about the roots of my plants; and now the air and the moisture can get at them, and they will grow.

He must have worked till a late hour last night; for see, each plant has had a full share of his toil.

And what does he get in return for all his pains?

Very little indeed; a nip of a half-dead leaf, or a bite of a soft stem is all that he asks.

It is hardly right to say that he takes a "bite" of any plant, for the poor thing has no teeth.



Neither has he eyes nor ears nor hands — he has not even feet to crawl with!

How, then, does he get about

Part of body of earthworm, showing so fast?

Ah, here he is; now we will watch him as he creeps along, and find out.

His body is made up of many rings; there are more than a hundred in all; when he was a baby he had but few; on each of these rings, are very small, stiff hairs; they are like short bristles.

It is by means of these hairs that the little gardener creeps along; he can even climb up posts and steep walls.

You will notice that there are only a very

few hairs toward the head; he uses his body and his tail when he creeps.

And yet he can part with his tail, and a large portion of his body as well, and not seem to mind it at all; no, not even if you cut him in two.

For in a little while the cut will heal, and he will get more rings, more bristly hairs, and a new tail.



"Bah!" you say. "It is only an earth worm that we have been looking at."

Yes, but you can learn a lesson even from an earth worm.

It is worth something to know that a creature without eyes, ears, teeth, hands, or feet, can still be of a little use in the world.

It is true that he will sometimes drag a young beet root, or some other small plant down

into his hole; but he is more helpful than harmful, after all.

But the poor blind thing is always in danger of being snapped up by his foes.

For birds, fishes, moles, and even ants, search out his hiding place in the moist earth.

It is said that there is no animal so homely and mean that has not some grand relation of which it can boast.

So it is with the poor earth worm. He creeps about in the ground and fills his body full of dirt.

This he does to make room for himself, as he goes along; then he comes to the surface and "dumps" it out.

But he has some grand relations that live in a much better style than this.

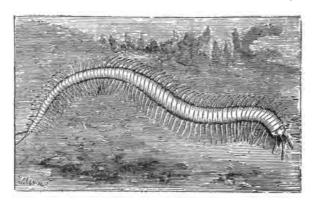
Let me tell you about one of them.

This worm lives in the sea; it is more than four feet in length, and is made up of four hundred or more rings.

Is he not a giant?

Each ring has two oars, and with these the giant worm rows himself along.

How grand he looks as he moves over the surface of the sea! Every paddle is in motion.



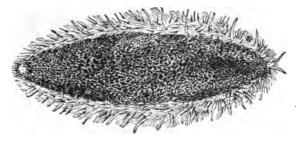
SEA-WORM.

His long body flashes with very many bright tints, and he glides along with the swiftness of a snake.

Our earth worm has another cousin called the Sea-Mouse; this one is about six inches long, and his back is covered with a silky down.

On his sides he wears tufts of soft hairs.

The colors of these tufts are as beautiful as the feathers of the finest birds.



THE SEA-MOUSE.

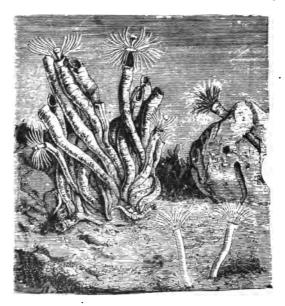
Purple, blue, yellow, scarlet, green, are all blended together in a shining mass.



MEDICINAL WORMS (LEECHES).

This little worm is covered with sharp spines which he keeps out of sight, as pussy hides her claws.

These spines are barbed with fine hooks; and in this way the silky Sea-Mouse goes softly about, armed to meet her foes. These are but two of the handsome worms that are found in the sea; there are many more.



SEA-WORMS.

Some of them live in the sand along the shore; others bore holes in rocks, and when they come to their doors and peep out, their heads look like fine-rayed flowers.

Now would you not like to see some of my poor blind gardener's fine relations?



GALL-FLY.

THE LITTLE BROWN HOUSE.

One pleasant day in the fall, the children took their baskets and went into the woods to look for nuts.

They carried their lunch with them, and so they staid nearly all day.

When they came back, they sat down and began to sort their nuts, putting each kind in a pile by itself.

"Here is an odd looking nut," said Eva.

"It has such a thin shell that I can break it with my fingers;" and she gave it a little pinch which crushed it in pieces.

"That is not a nut," said her brother. "It is—it is—I do not know just what it is, but we will wait and ask mother."

They soon found another, just like the one Eva had broken: and as soon as their mother came into the room, they showed it to her, and asked her if she had ever seen such a "queer nut as that."

"It is not a nut at all," replied their mother.

"That is the little brown house of an insect; but I can see that its owner has moved away and left her small door wide open."

By this time the children were all gathered round the mother, each trying to get a peep at the door of the little brown house.

She pointed out a small opening about the size of a pin head.

"That is the door," she said; "but if you should see the insect with its four wings spread out, you would wonder how it could ever pass through such a small hole as that."

"I did not know," said one of the children, "that any insect ever has more than two wings."

"What is an insect?" asked Eva. "Are bees, and bugs, and everything that flies around, here and there, called insects?"



BLUE BOTTLE.

"I can show you, easier than I can tell you," said her mother.

"I am very busy now; but if you will catch a large fly, such as you saw yesterday, buzzing about the kitchen windows, I will tell you just what an insect is; and we will let the big fly help us on in our lesson."

An hour later and the children came in with a buzzing "blue-bottle," safely lodged in a glass cup, having a close cover.

Their mother dropped into the cup a piece of soft cotton, wet with benzine, and in a few minutes the fly was dead.

Then she took it out of the dish, and passed it around for each child to look at.

"Do not tell me what you see till I ask you," she said; "but look very carefully, and be sure that you see all."

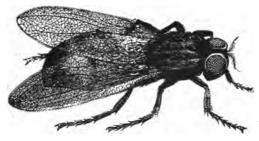
After each one of them had turned it over and over, and looked at every part, the mother said, "Now I am ready to hear what you have to tell about the fly."

Eva spoke first. "I saw a head, and two big eyes, and two wings, and six legs, and,—and—and that is all," she said.

"Oh, I saw more than that," said George.

"I saw the head, and a round middle part joined to the head, and a long, slender part that was joined to that.

"And there were two little drum-sticks, one under each wing; I know they were drum-sticks for they each had a knob on one end."



FLY MAGNIFIED.

"I think I saw a little bit of a mouth, and some small hairs on the fly's body" said Laura, "but Eva and George have told everything else."

"You have all of you done very well indeed," said their mother, "and now we will look at our fly under this glass. It is called a lens; and when you look through it, the parts of the fly will seem to be larger.

"George is right in saying that the fly is divided into three parts; and I will name these parts in their order.

"First we have the head; next the middle part; this is called the thorax; it means the trunk.

"And last of all we have the abdomen.

"In the head we find two large eyes; these are called compound eyes, because they are made up of many, many smaller ones.

"Our little fly has as many as four thousand eyes in all, there being two thousand on each side of the head.

"Between these, are the simple or single eyes; is it any wonder, then, that you cannot creep softly up, and catch him in your hand, when he does not see you?

"If you look more closely through this lens, you will see two very small threads near the mouth; these are often called the "feelers;" but the true name for them is the an-ten-nae; they are so small that you may not be able to see them.

"When we speak of one of them, we say antenna.

"The mouth of the fly is really a long, fleshy tongue; and as we chance to see it now, it is bent up.

"But when the fly lights on a lump of sugar, it pushes out its long tongue, and the broad knob on the end of it, divides into two flat leaves.

"With these small leaves it can scrape or rasp the solid parts of its food, and with these it can also lap or suck up molasses and other fluids.

"Now we will look at the thorax, or middle part of the body.

"Here we find the six legs fastened to the under side; and on each side of it, we find a wing.

"You can see plainly the small 'drum-sticks' that George told us about.

"These are called the 'poisers;' because the fly often rests upon them to balance itself in flight.

"The wing of an insect is only a portion of

the crust of its body, spread out over a framework of little tubes; these small tubes are called veins.

"This is not strange; for the nails of our fingers and of our toes are only one form of the skin that covers and protects our bodies.



OUTLINE OF FLY.

"The little tubes that make up this framework are double; the outside tube is for sending blood through the body; and the inner tube is for holding air.

"Along the sides of the body you can see some small holes, through which the air passes in and out.

"It is by means of these holes that an insect breathes.

"Through the lens you can plainly see the fly's feet; both the feet and the legs are jointed, and covered with hairs.

"Between the two claws of each foot, there are two small pads or cushions; but this is not because the feet are tender or sore.

"It has been thought that these pads act as a sucking-plate to hold the feet of the fly down to any smooth surface in walking; as when it walks on a pane of glass, or the smooth ceiling overhead; these pads are covered with fine, knobbed hairs.

"But it is now believed that the hairs on these pads hold a sticky fluid that keeps the fly from falling as it walks rapidly along.

"And now we come to the abdomen of the little fly, and we find it marked with many rings; the head and throax are also divided into rings; but we cannot see them very plainly.

"From the pointed end of the abdomen, the female fly lets fall her small eggs.

"And right here, I am ready to answer your question, 'What is an insect?'

"The meaning of the word insect, is 'to cut in;' for every true insect is divided or 'cut into' three parts; and these parts I have already named.

"Upon looking at our little fly, we find that it has them all.

"Again, every true insect has six legs; and our fly has just that number; so we are quite safe in calling it a 'true insect.'

"The insect world is divided into seven general Orders; and these Orders are again divided; so that it would be very hard for us to try to know about them all.

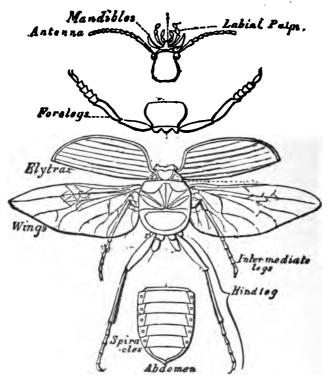
"But we will place our little fly in the Two-Winged Order, and we shall soon find many other insects that come under the same head.

"If you look at a spider, you will see that it has eight legs; and that its head is joined to its body in a very different way from that of the fly.

"The spider, then, cannot be classed among the 'true insects.'"

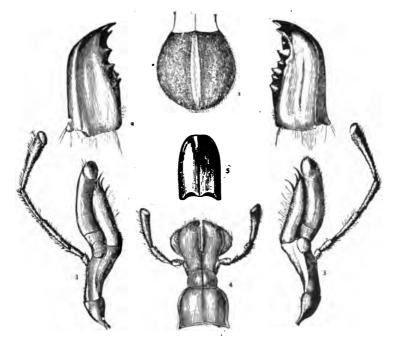


SPIDER.



MORE ABOUT INSECTS.

The bodies of insects are made up of rings, and these rings can be seen more plainly in the abdomen than elsewhere; at the end of the abdomen is the egg-tube, and also the sting.



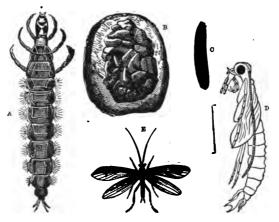
ORGANS OF INSECT'S MOUTH.
(1) Upper lip; (2) upper jaws; (3) lower jaws; (4) lower lip; (5) tongue.

There are many insects that have no sting; and there are a few that have no wings.

All flying insects have four wings excepting the Two-Winged order.

The mouth-parts of insects are not all formed alike.

The jaws of some of them have little teeth, and these jaws are so formed that they move side-wise, instead of working up and down, like our own; if you look at the mouth of a grass-hopper you will see such jaws as these.



(a) Larva; (b) larva-case; (c) cocoon; (d) pupa; (e) full grown insect.

The mouth-parts of others are formed into a sharp snout, so that the insect can pierce roots and leaves, and also suck up fluids.

And others, again, have a long, slender tongue that they can roll up like a watch-spring, when it is not in use. All insects come from very small eggs, and when the egg is hatched, the little white grub that creeps out of it is called a larva.

The word larva means a mask; and when we speak of two or more of them we say larvæ.

They are rightly named, too; for after they are full-grown, flitting about with wings, no one would suppose that they had been hidden under the mask of a crawling worm!

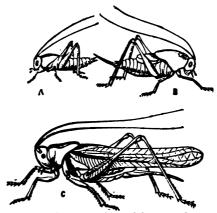
And oh, how hungry the young larva is! It eats every green thing that comes in its way.

But after a time it makes a little covering for itself which is called a cocoon.

While it is hidden away in this cocoon it is a pupa; this word means baby; when we speak of two or more, we say pupæ.

And so we have now a baby in its blanket! What next?

In two or three weeks it may break open its covering and come out with wings; but some insects stay in the pupa-covering all winter. The females build nests and lay eggs, but the males do very little work; neither the males nor the females live long after the eggs are laid; and most of them eat nothing but the sweets of flowers, though some feed upon plants and upon other insects.



(a) Larva; (b) pupa and (c) adult of grasshopper.

But all insects do not hatch out as worm-like babies; some of them have the insect form as soon as they come out of the egg.

As they grow larger and larger they cast off their skins, until finally they become full-grown insects. Among these are the Straight Wings, in which we find grasshoppers, crickets, katy-dids, and many others.

There is an order known as the Half Wings; they are so called because the front half of each fore-wing is thicker than the other half.

The insects of this order also come out of the egg as real insect-babies, and not as wormlike larvæ.

It is in this order that we find plant-lice, leaf-hoppers, water-boatmen, and other curious creatures, that we shall learn about hereafter.

Many people do not know a grub or a caterpillar from a worm, although worms are very different creatures, as you will see when you have learned more about them.

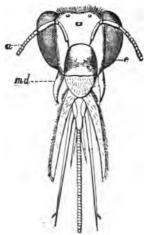
In almost every order we find some insects that are very useful.

The busy little bee supplies us with honey and with wax.

The silk-worm spins thread for our fine clothing.

One insect makes a thick glue* for us; and from the body of another we get a bright red dye.

We use a small green blister beetle for medicine; and from one of the gall flies we get a good black ink.



HEAD OF BEE.
(a) antenna; (e) eye; (md) jaws.

It was one kind of gall fly that made the little "brown house" that the children found among their nuts when they came home; but this kind is not the ink-making fly.

^{*} Shellac.

There are several kinds of gall flies that pierce a hole in the leaf of the black oak, and in this they lay an egg.

Their sharp sting causes the leaf to swell, and all the sap in the leaf flows toward that part; so when the larval baby is hatched out it has plenty of rich sap to feed upon.

After a time it makes a cocoon for itself, and becomes a pupa, or real baby fly.

When its baby days are ended it creeps out of its soft blanket, makes a round door in its small brown house, and comes out with wings!

Its little house is called a gall nut, and they are often found in the stems, leaves, and buds of plants; such flies do much harm.

All will agree that insects are of use in carrying pollen from one flower to another; for in this way they help to ripen the seeds, as flowers cannot form seeds without pollen.

In some flowers where there is no pollen

THE THERE WILLS THE THE THE BOARD IN SECT.

but there are filters where there may be given if policy and yet their seeds are not of make where they can borrow pollen from their makes they can borrow pollen from

And so, very then it happens that two the same kind will exchange pollen; then some honey-seeking insect acts as the go-between in doing their errands.

But after we have said the very best that we about insects and their uses, we are still sure that the greater number of them are more harmful than helpful in the world.





THE HIDDEN SONGSTER.

Hark! Hear you not that long, shrill strain?Where is the singer hid?I've looked, and looked, but all in vain.Where are you? "Katy-did"

Comes back in answer to my call.

"Did what? Did what?" I cry.
But "Katy-did," and that is all

He gives me in reply.

Please tell me Katy's other name —

I really want to know;

For should I find her much to blame,

It would not vex me so.

To whom does this strange Kate belong?

Is she your little wife?

And have you sung that noisy song

Through all your married life?

And thus I question; but in vain,

For in the darkness hid,

He utters not another strain

But that shrill "Katy-did."



TWO-WING MOTHERS.

PART I.

"What a noisy creature you are!" said a lean, hungry mosquito to a large Blue-bottle fly, as they both darted in at an open window about the same time.

"Is my buzzing song any more noisy than your shrill piping tune?" asked the fly.

"It is not worth while to quarrel about it," said the other, "since we each like our own music best."

At this the Blue-bottle buzzed louder than before, and danced up and down the window in high glee.

After a time the Mosquito said, "Pray tell me, Mistress Blue-bottle, where will you lay your eggs?"

"Follow me, and see for yourself," buzzed the fly.

Then she flew straight to the kitchen, and lighted on a piece of raw meat that the cook had thrown into the scrap-basket.

There she laid a number of small white eggs; for she was wise enough to know that, when her babies should hatch out, a feast of spoiled meat would be just what would suit them best.

"I have a far better place than that for my

eggs," piped the Mosquito to herself, and with that she flew out of the window.

And now we will follow her, and see if she is right.

Look! she flies to a large rain tank under the eaves of the house, and lights on the surface of the water.

Now she crosses her hind legs and makes a little frame for her eggs to fall upon.

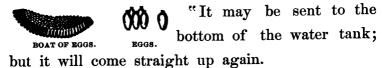
MOSQUITO.

There are as many as three hundred of them and they are laid in a mass that is shaped like a little boat.

"There!" pipes the small Two Wing

Mother. "My eggs are put into a HEAD OF MOSQUITO.

life boat; and neither wind nor water can upset it.



"Is not that a much better place than a piece of stale meat?"

Now let us watch this little boat and see what becomes of it.

It floats around on top of the water for two or three days; and then the larval sailors are hatched out.

And what lively little wrigglers they are.



Down they go to the bottom of A"WRIGGLER. the tank in search of their slimy food.

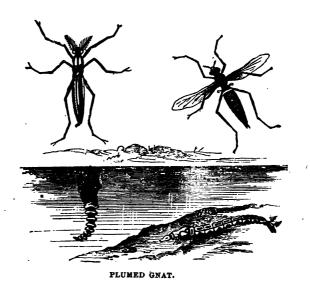
Up they come, a minute later, to the surface of the water for air.

Every time they come to the top, they take in a breath of air through a mite of a tube at the end of their small bodies.

> In about two weeks they change to the pupa state. Then they are real water babies.

And with this change, a very strange thing happens.

They no longer use the larval tail-tube for air.
Instead of that, they breathe through two
long pipes that open on the back of the thorax.



In a few days, each baby sailor lifts its thorax above the water, and then another strange thing happens.

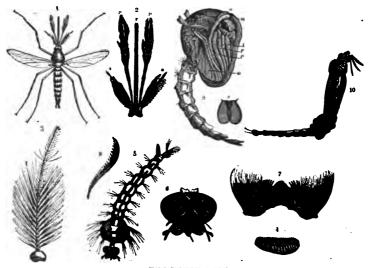
The pupa-case splits down the back; and a part of the young mosquito's body is pushed out.

Now the insect stands in the cast-off pupa-

case, as if it were really a little boat, until its wings and legs are free.

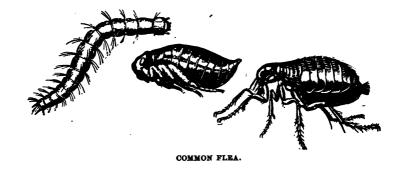
Then away it flies, all ready to thrust its sharp, hungry bill into our tender skins if we chance to come in its way.

The fierce little gnat is the mosquito's cousin; and she lays her eggs in about the same way; but she makes no piping sound as she flies about.



THE HOUSE GNAT.

(1) The Gnat, enlarged. (2) Head, magnified. (3) Antenna. (4) Egg.float. (5) Larva, magnified. (6) Head of Larva, still more magnified. (7) Jaws. (8) One of the comb-like hairs from the jaws. (9) Side view of pupa, magnified. (10) Gnat issuing from pupa.



TWO-WING MOTHERS.

PART II.

There are many kinds of flies, that, like the mosquito, live by sucking the blood of other animals.

Those hungry atoms, the Black-flies, are of this sort.

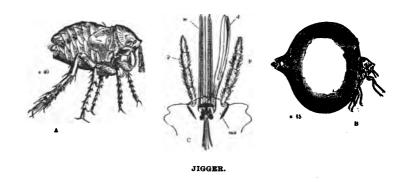
When they swarm in large numbers they look like a cloud of dust in the air.

The common Horse-fly and the Golden-eyed Two-Wing, are both of them very fierce insects.

And there is a fly in Africa whose bite is so poisonous, that it sometimes causes death.

There are some insects in this Order that are without wings.

Fleas, and bee-lice are of this kind; and in some warm countries, there is a very small wingless insect called "The Jigger."



It bores into the skin of human beings, as well as into that of the lower animals, and causes swellings and sores.

But why are these wingless insects classed among the flies?

Because they are more like them, than like anything else that is found in the other Orders.



BOTFLY.

The Botfly has a stout, hairy body; it lays its eggs on the fore-legs of horses.

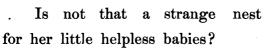
The animals, in licking their bodies, take these eggs into their stomachs, and very soon they

hatch out.

Then the hungry larvae eat holes in the stomachs of the poor creatures.

There are some flies that hatch out their eggs in their own bodies.

The Sheep Botfly is of this sort. The mother fly places her white larvae in the nostrils of the sheep.



Think, too, what these poor animals must suffer, while the wriggling grubs creep up their tender nostrils. When the grub changes to the pupa-form, they fall to the ground.



In the skin of the calf, ox, and some other animals, hard tumors or swellings are often found.

It was thought for some time that the tumors were caused by the eggs of a fly dropped upon the skin of the animal.

But it is now believed that the eggs are swallowed by the animal, and that when the grubs hatch out, they work their way through the body to the skin.



Among the Two-Wings is a band of very strong robbers; they seize other insects and suck their blood.

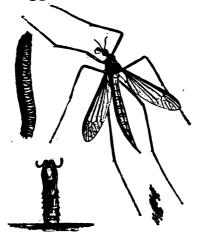
Their bodies are clothed with coarse, stiff hair; they are called Robber-flies.

Is not that a good name for them?

Some flies lay their eggs at the roots of plants, and the hungry larvae do much harm.

The larval babies of the Daddy-Long-Legs feed on the roots of grass, and other plants.

Again, there is a kind of Two-Wing that looks like a bee; it steals into bee-hives, and there lays its eggs.



DADDY LONG-LEGS.

When the larval babies hatch out, they feed on the larval babies of the bee.

Does not this seem very strange?

There is a very pretty Two-Wing that wears a gay suit, banded and spotted with yellow.

These insects like to flit about in the hot sunshine, and sip the sweets of flowers; the larvae of some of them feed on plant-lice.

There is a mite of a shining black fly that lays her eggs in cheese.

Her larval babies skip about in a very lively manner; they are called cheese skippers.

In this lesson you have learned some things about mother flies and their babies.

But what about the father Two-Wing? We do not see him very often.

The male mosquito seldom comes into the house; when he does come, he neither pipes a tune nor stings your flesh.

He finds his food in the slime of standing water, and in low wet ground.

Most of the male flies are also very harmless, and feed on the sweets of flowers; the fierce Horse-fly is another Two-Wing.

Now try to name all the insects having but two wings that you have ever seen.

You will find that they are mostly flies; but there are a great many sorts and sizes of them. There are more than fifty different kinds that fly in at our windows every season.

You must not think that the very small flies that you see flitting about here and there, will ever grow to be any larger; for flies do not grow.

As soon as they throw off the pupa-skin, they are as large as they ever will be.

But in the next two Orders that you are to read about, you will find insects that do increase in size, and moult or shed their coats as they outgrow them.



HOUSE-FLY, (emerging from its pupa case.)



CICADA

THE HALF-WINGS.

In this order we find many insects that we do not like to hear about.

For bed-bugs, lice, and some other vile bugs belong here.

They have stout beaks for sucking their food.

It is with such beaks that plant-lice and squash bugs are able to draw out the juices of roots and leaves, and so cause the plants to die.

There is one insect of this Order that spends seventeen years of its life as a baby.

Do you not think it must be very proud to get its wings at last?

This kind is called the Seventeen Year Cicada.**

^{*} Children should learn that "Seventeen Year Locust," (the term commonly applied to this insect) is not the proper name for it.



The mother Cicada makes short furrows in the twigs of trees; these furrows are made in a nearly straight line.

In each furrow she places her eggs in pairs; there are sometimes from ten to twenty white, shining eggs in a furrow.

This insect often lays as many as five hundred eggs; and by the time she has made furrows for so large a number she becomes very weak and tired.

Soon after she lays her eggs she dies.

In about ten days, the larvæ hatch out, and fall to the ground.

Then they dig their way down, till they find a root filled with sap, and this they soon suck dry.

And so they creep from root to root in search of food, till they have roamed about in the dark, cold earth for seventeen years.

As they live on the roots of plants through all these years, you must know that they do a great deal of harm.

When they are ready for their wings, they creep up out of the earth, and fasten themselves to something, as a stick, a twig, or a stem.

Then the pupa-case splits open along the back, and out they come.

There is one insect of the Cicada family whose babies live thirteen years in the ground; this kind is known as the Thirteen Year Cicada.

But there is another kind that does not live more than a year or two in the pupa-state.

The cast-off cases of this kind, may often be found on the twigs and stems of trees.

There is a small three-cornered insect,—shaped like a wedge; it has long hind legs and can leap like a cricket.

This little Half-Wing is called the Leaf-Hopper. Its babies feed upon the roots of grass and other plants.

They often throw out from the ends of their small bodies, a mass of spittle or froth in which they hide themselves; and for this reason, they are sometimes called the "Spittle insect."

There is another small Leaf-Hopper found on trees; and this kind makes galls on the leaves of plants.

Among the Half-Wing insects there is one little mother that is called the Vagabond.

She is so named because she roams about here and there in search of a place for her eggs.

Finally she comes to the tree that suits her best; then she makes a small hole in a leaf, and puts in her tiny eggs.

This causes a swelling or gall, and when her babies come out of the eggs, behold, they have a "little brown house" of their own!

Do you think that it is hardly fair to call the careful mother a Vagabond?

There is a very large insect in this Half-Wing Order, that is found in warm climates.

Its mouth or snout is nearly as long as its head.

Most people believe* that from the head of this insect, there shines a light something like that which flashes from the bodies of our pretty fireflies.

On this account it has been named the Lantern Fly.

There are quite a number of Half-Wings that make their homes in and about the water.

They have long hind legs that they use for paddles in swimming.

Some of them can both fly in the air, and dive down deep into the water; but when they try to walk about on land, they make hard work of it.

The Water Boatmen are of this sort; these strong swimmers like to float about on their backs, using their long, hairy legs for oars.

There is one kind of Half-Wing swimmer

^{*} This is the general belief although it has been disputed.



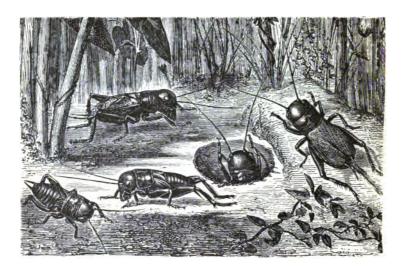
that has slender, stick-like legs, and is called a Water Scorpion. They are very fierce, and feed mostly on the water-babies of other insects.

The little Skip-jack Half-Wing or Water-Spider, can dance about on the water without hardly wetting his feet; there is a thick coating of plush on the under part of his body that is water-proof. Some of these Half-wing swimmers, have a mite of an air-bladder in the thorax; this makes their bodies very light.

From one of the male insects of this Order we get a bright red dye; * and from the female of another we get a clear, strong glue.†

^{*} Cochineal.

[†] Shellac.



FIELD CRICKETS.

THE CONCERT.

PART i.

Listen! Do you not hear the sound of music away down in the meadow?

Come, let us go down there and see what is going on.

Ah, the Straight-Wings are having a concert; and what queer looking creatures some of them are!

See how they leap about; they are able to do this, because the hind pair of legs is so much longer and stouter than the others.

But all the insects of this Order cannot leap like that; for all do not have such long hind legs.

You will notice that the mother Straight-Wing makes no music; she is too busy with taking care of her eggs.

Look at that Field Cricket, tuning up his violin! It is no wonder that his mate is always

FIELD CRICKET.

silent; for he can make music enough for them both.

How does he do it?

One of the large veins in his fore wings is toothed like a file.

This very finely notched file is his bow; and when he scrapes it upon the hind wing, oh what shrill music it makes!

But he never tires of it,—not he; it is just what he likes best; for when he makes such music as that, he is calling to his mate.

Both he and his family wear dark brown coats, and feed on roots and tender plants.

The mother cricket lays her eggs in the earth; and sometimes there are three hundred or more of them.

Think what a family of baby crickets there must be! No wonder that the little mother has no time for music.

The Snowy-Tree-Cricket and his mate have come to the concert, for he is fond of making music too.

Sometimes these are called White Flower-Crickets; because they are often found among flowers in the garden.

This cricket keeps up a shrill "te-reet, te-reet" that can be heard for a long distance away.

He wears a suit that is almost white; but his mate has pea-green wing-covers, with lighter hind wings, clear and thin.

At the end of her body she carries a sharp awl.

With this, she bores a row of very small holes in a twig or vine, and in these holes she puts her tiny eggs; this causes that part of the twig, or vine, to die; but little does the mother cricket care for that.



But where is the House Cricket and his family?

They are not here; for he is not fond of a field concert;

he would rather sit on the hearth at home and make music for his mate at night.

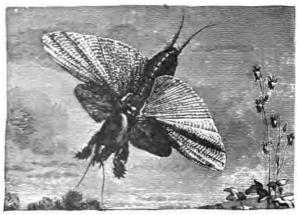
See that large Mole Cricket that just comes to the mouth of his burrow and peeps out!

He has thick, short fore-feet that look like queer little hands.

He uses these hands for both spade and shovel when he is digging his dark cellar home.

When mole crickets are making their burrows in the earth, they cut through roots, and fine twigs that grow under the soil, and eat them as they go along; in this way they do much harm; but they also feed on grubs and worms, and so they are of some little use after all.

They make their rooms and hall-ways smooth and clean.



MOLE CRICKET.

In one of these rooms, at the end of the burrow, the mother cricket lays her eggs; which are safely hidden in a small, tough sac.

The father cricket likes to sit at his own door at night, all alone by himself, and play a low, soft tune with his wings.

When baby crickets are first hatched, they have no wings, and their antennae are short.

But see what very long antennae the full-grown crickets have!

Some of them are longer than their bodies.

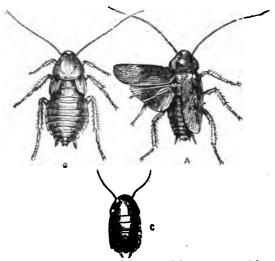


NEST AND EGGS OF MOLE CRICKET.

Baby crickets moult, or shed their coats, a number of times before they get to be as large as their parents.

All insects of the Straight-winged Order shed their coats until they get their full growth; for they do not hatch out of the egg in a worm-like form, as some others do.

You will see that in this they are like the Order of Half-Wings.



COCKROACHES - MALE (A), FEMALE (B), AND YOUNG (C).

THE CONCERT.

PART II.

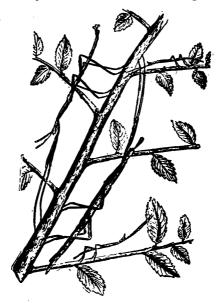
The vile Cockroach family, and their cousins the Croton Bugs, did not come to the concert; it is just as well.

They could not have made any music, if they had.

The wings of the father cockroach are shorter

than his body; and those of the mother, if she has any, are hidden under the wing covers.

These filthy creatures do nothing but eat.



WALKING STICK INSECT.

They feed on both insects and plants, and they will even gnaw holes in the covers of books, when they can find nothing else that suits them better.

Both the mother Roach and the mother Croton

Bug may be seen running briskly about in kitchens and other warm places, with a small egg-sac hanging from the end of their bodies.

These insects wear chestnut-colored coats, and have long antennae; but the color of the roach is oftener much darker than that of its cousin, the Croton Bug.

Ah, here are a number of the twig-like Walking Sticks.

What do such prim, quiet creatures care about a concert?

What a figure they do cut! They are the oddest looking insects in the whole company.

They are often called Stick-Bugs, Wood-Horses, and even Skeletons. Do they not look more like dried sticks than like insects?

The father Stick Bug wears a suit either of plain brown or of a dull gray.

But when he was a baby he had on a grass green suit, much the color of that which is worn by his mate.

This kind, that we find here, is without wings; and when they stretch their slender bodies out on a stick or a stem, they look so much like a dried twig that their enemies cannot find them.

Sometimes a large number of mother Walking-Sticks will rest on a twig and drop their eggs on the ground.

As their eggs fall, one after another, it sounds like the patter of raindrops on the dead leaves below.

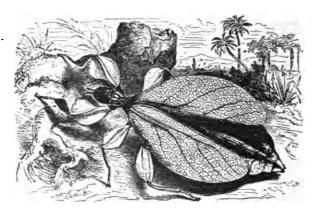
These tiny eggs are shaped like a flat bean; and one side is marked with a fine brown line; each egg is closed with a small lid or door.

Do you not think that it must be a very funny sight to see the small green Wood Horses push open their doors and comes out?

Like all other babies, they are very hungry; and both they and the full grown insects do much harm by eating the green leaves of trees.

These insects have cousins with large, leaf-like wings; and this kind go under the name of Walking Leaves.

They have, also, other relations that are very large and fierce.



LEAF-INSECT.

These are called Race-Horses, Praying insects, and other names that are quite as odd.

They often fight among themselves, and then the larger and stronger insects will devour the weaker ones; they will even fight for some little time after their heads are torn off.

But most of the Stick-Bug's relations live over the sea.

The Praying-insect holds up its fore-legs, like a pair of arms.



' PRAYING INSECT."

And when its prey comes within reach, it quickly crushes it with the sharp spines of these fore-legs.

The Walking Stick has also another cousin called the Earwig.*

^{*}The "Thousand-legged Worm" is often improperly called an Earwig. The "Thousand legs" is not a true insect.

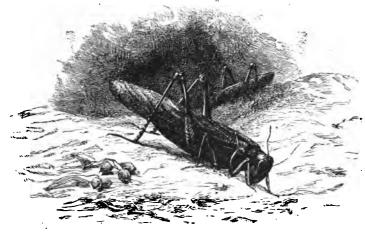
now.

The mother Earwig has sharp forceps at the end of her body. She takes good care of her



EARWIGS.

young, and broods over them, as a hen broods her chickens. If an enemy comes near, she fights him with her sharp forceps. But the Walking Sticks that we find here to-day, are too sluggish to fight. When they are not eating, they care for nothing better than a dry twig to rest upon, as you see



GRASSHOPPER.

THE CONCERT.

PART III.

And now we come upon a number of insects that can make music indeed.

Some are clad in green suits, and others in brown.

These are the true Grasshoppers.* See their long, hind legs, armed with hairy spines!

^{*}The child should be taught that grasshoppers and locusts are different insects.

These insects can leap even farther than the crickets.

Do you notice that their slender antennæ are nearly twice the length of their bodies?

You can see also that their feet are four-jointed.

The wing-covers are long and narrow, and the thin hind wings are folded lengthwise like a fan, and hidden under them.

You would hardly suppose that these straightwinged creatures could spread their silken fans and fly swiftly out of sight!

What large heads they have, and such great round eyes!

They have sharp jaws, too, for biting, and do they not move them in a queer sort of way?

The grasshopper makes music by means of a small drum-head set in his fore-wings, just where they are joined to his body.

When he rubs these small drum-heads together, it makes a sharp piercing tone.

Can you not hear it amid the other sounds in this grand concert?

Notice also, that when the wing-covers are folded, it makes a high ridge along the insect's back.

Some grasshoppers are wingless; they have soft bodies, and lie under stones.

They are of a mottled brown color, and have long, fine antennæ; they look much like crickets.

The mother grasshopper lays her eggs in the ground; though some kinds bore into wood, as you will see later on.

She carries a sharp sword at the end of her body; and with this, she makes a deep hole in the earth for her eggs.

The pretty Katydid is also a true grass-hopper.

But he will not make music at this concert, for he and his family hide away among the green leaves in the day time.

Then at night he comes forth with his shrill

"Katydid, Katydid;" and though no one disputes him, he will keep it up for hours at a time.

The mother Katy lays her eggs in double rows along the surface of a twig; there are eight or nine eggs in each row.

At the end of her body she has a sharp, curved sword, with fine teeth set along the edges of the blade.

With this sword and with her jaws, she rasps the bark of the twig and makes it rough; then she glues her tiny, slate-colored eggs fast to these rough places.

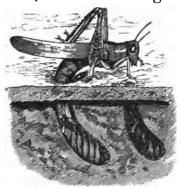
Every time that she puts an egg into its place, she bends up her body and holds the tip of the sword between her fore-feet.

It is very hard work, and she often stops to rest.

These insects are pretty pets, and when they are kept in cages they become quite tame.

They will hold a bit of ripe apple, or any other food that they like, between their fore-feet, while they eat. They will also keep their cages very clean, throwing out dried crumbs and dirt with their hind-legs.

They look very funny when they draw their long antennæ through and through their jaws, as if trying to comb them out straight and smooth.



LOCUST.

Look! Here comes a swarm of merry leapers; these are the locusts.

Their antennæ are quite short; but what very long, stout legs!— and the feet are three-jointed.

The music of the locust has a harsh, grating tone.

How does he make it?

He rubs his large thighs against his long, narrow fore-wings.

Now they are all playing together, and what a noisy band they are.

The mother locust has a drill in the end of her body; this drill is made up of four pieces; it will open and shut, and with it she makes a curved hole in the ground for her eggs.

They are covered with a soft glue that soon dries and forms a strong pod, or case, for them.

Sometimes there are fifty eggs or more in one pod; she closes it fast, but when the baby locusts are born, they break it open, and soon find their way to the surface of the ground.

Locusts are greedy creatures, and sometimes they fly in great swarms and eat every green thing that comes in their way.

When a baby locust gets its first wing-pads it looks as if it had put on a small, round jacket.

But you will see that the full grown insects wear stiff collars about the neck, even larger than those of the grasshopper, and that they have long wings, and many of them have bright colors on their spiny legs.

Now they spread their wings and you see some pretty colors that were hidden before by the brown wing-covers.

But see! The large rain drops begin to fall from that dark cloud overhead.

The music of the crickets, grasshoppers and locusts is hushed; the concert is over, and we will hasten home.





THE NEW CARPET.

Our Mother Earth is in her loom,

And weaving, night and day;

Her new spring carpet must be done

Before the month of May!

Behold the stripes of red and green,
Of yellow, brown, and blue;
In warp and woof I ne'er have seen
A web of such rare hue.

Our good Snow-King is melting down, And nevermore will rise; The icicles that spike his crown Have dwindled, too, in size.

The hill-side, just across the lake,
Shows patches here and there
Of snow, like some brown Christmas cake
Picked very, very bare.

And busy fingers, I behold,That weave with fairy-floss,As on the bare rocks, hard and cold,They spread their mats across.

My heart leaps high, as far and wide,
Where'er I chance to stray,
I find shy fairy sprites that hide
Their elfin forms away,

Down deep within the tangled woods,
With that bright swarm of B's,—
The Birds, the Butterflies and Buds,
That seek such haunts as these.

Weave on, weave on, dear Mother Earth,

Thy carpet warm and bright;

Of warp and woof thou hast no dearth,

And oh, with what delight

I'll watch the weaving of each strand
That makes the web complete,
And praise the kind and loving Hand
That spreads it 'neath my feet.





BAT.

THE LITTLE "FLITTERMOUSE." PART I.

I am going to tell you about a very strange visitor that called upon me one evening last summer.

This queer little creature flew in at my open window, a little after midnight. Was not that a most untimely hour for making a friendly call?

But who was he? Where did he live? And why did he go about at so late an hour? Since

he flew in at the window, he must have had wings. Was it a bird, or was it an insect?

Strange to say, it was neither a bird nor an insect, and yet it could fly.

"Ah, I know what it was," says one, "it was an ugly bat."

You are right; it was indeed a bat; but not one of the fierce, ugly sort.

The timid, frightened thing darted blindly about my room, as if trying to find the open window; but I finally caught him, and held him a prisoner in my hand.

His mouth was full of sharp, white teeth and he tried hard to bite my fingers; but he was able to give only a very slight pinch that I could scarcely feel.

So you will see that I ran no risk whatever in holding my little visitor tightly in my hand; and now we will suppose that we have him right here before us where we can examine him carefully.

You will notice that its body is about the size of a mouse; and that it is covered with soft hair, of a reddish brown color.

Its ears are quite pointed, like the ears of a mouse; and in front of each one, there is a stiff, pointed growth of skin that looks like a smaller ear.

Its snout is pointed, and its eyes are very deeply hidden in its fur; but it is not blind.

We sometimes hear the remark, "As blind as a bat." But people say this because bats dodge about in their flight as if they could not see.

Now let us examine the wings of this queer little Flittermouse; they are not covered with feathers, like those of a bird; neither are they as thin and clear as the wings of a house-fly or of many other insects.

They are skinny and tough and wrinkled; and now look at the under part of the bat's body.

The breast is covered with hairy fur like the back. On each side is a long arm, bent at the elbow. And what very long hands! They are

half as long as the arms; and see! Each hand has four long, slender fingers. These long arms, hands, and fingers serve as a framework for the thin fold of skin that forms the wings.

This thin, tough skin is stretched out, something as the silk of an umbrella is stretched over its frame.

The bat cannot shut up or close its hand as we do; but it folds its wings lengthwise, like the plaits of a fan.

The stiff, short thumb on each hand is left free; it is armed with a sharp, hooked nail; by means of this the creature can climb a steep wall, or drag itself along the ground.

You will find that its hind feet are very small, and on each foot there are five toes; these are also armed with sharp claws. The wings extend to the feet, but the toes are free.

Let us measure the wings, as we spread them out wide. Would you believe it? They measure ten inches from tip to tip!

Our bat has a very short tail; and although it is not free from the wing-portion, it seems to serve him as a rudder, or guide, in flight.

And now we come to the question, "Where does our little Flittermouse live?" He may live in a dark cave, or he may hide himself in a hollow tree.

He stays at home all day and rests with his head downward. Is not that a queer way to go to sleep?

The bat is the only animal that does this. To make himself secure he clings to some object with his hind claws; then "hanging by his heels," as one might say, he fastens his sharp thumb nails to something below.

At night he flies about in search of insects; but there are only certain kinds that he can capture; for there are many insects that do not fly at night.

Bats may often be seen darting about at twilight; but they do not come out in stormy weather, nor in the bright sunshine.

During the long, cold winter they hang in their dark homes with the head downward; but when spring returns, they awaken from their stupor, and fly about at nightfall in search of insects.

The mother bat is very fond of her young. She usually has two wee babies that she holds closely to her breast with her strong-winged arms. Baby bats do not feed on insects; they live on their mother's milk.

They can be caught and tamed, so that they will stay on the window-sill and catch flies; but they give out a very strong odor, and are therefore not very nice pets.



THE BAT'S RELATIONS.

The small Flittermouse has some cousins that are very large and fierce. We found that the wings of our bat, when fully spread, measured ten inches. But he has a cousin whose wings will measure five feet from tip to tip! This bat lives away over the sea, and feeds on fruit.

The Vampire (bat) is a very savage creature; it will sometimes attack animals and suck their blood. It has a long pouch at the end of its stomach; this sac will hold a large amount of food.

But we need have no fears of this fierce creature, for its home is in South America. It is sometimes called the Spear-nosed bat, and sometimes the Leaf-mouthed bat; because its nose looks like an up-turned leaf.

There is another kind that has its nose shaped something like a horse-shoe; and so it is very aptly named the Horse-shoe bat.

VAMPIRE BAT.

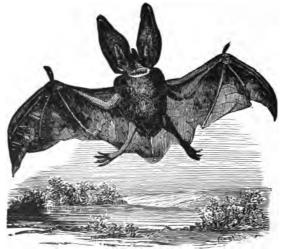
The Puff bat has an odd way of blowing air under its skin, so that it can make itself look like



HEAD OF HORSE-SHOE BAT.

a ball. The skin of this bat is fastened to its body at different points here and there, and that leaves it loose in many places.

It puffs the air through holes in its cheekpouches till it fills every bit of space under the skin.



THE LONG-EARED BAT.

The Great Eared bat has ears as long as its body. When it goes to sleep it folds up its long ears and "tucks" them under its arms.



HEAD OF GREAT HARE-LIPPED BAT.

The Hare-lipped bat has the upper lip cleft, like that of a hare or a rabbit; this animal has a short, thick tail.

The fruit-eating bats do much harm. They generally fly in large flocks. During the day they hang from the branches of tall trees; but soon after the sun sets, they rush forth in search of ripe fruit.

They fly slowly, and in a straight line. I am very sure that you would not like to meet such a flying army in the dark.

Besides the noise which bats make by the whirring of their wings, they often send forth a shrill cry, which may be a call to their young.

But our little brown bat is the most harmless of all this strange family, after all. He is not only harmless, but he is truly helpful, for he destroys many insects that infest our gardens and fields. His appetite is so keen that he will devour as many as forty flies at one meal.

Let us be glad, then, that we have him for our neighbor instead of his fierce and blood-thirsty cousins.



BEAVERS.

SOME CUNNING BUILDERS.

PART I.

One day as I was walking along the border of a large stream, I saw in the distance what seemed to me to be a number of small huts.

When I came closer I found that these huts had neither windows nor doors; and that they were built mostly of mud and sticks.

Some of them were set close to the water's edge, while others were built at different points, in the bed of the stream.

For the lack of a better name, we will call this little hamlet of huts "Mud Town."

You will not be able to trace this town on your maps; for although it has houses and roadways, and many long canals, yet not one of these things was made by man; and not a human being has ever lived there.

That is odd. How, then, did this little town happen to be built? And what has become of the builders?

I will tell you. Have you never heard anybody say, "I must work like a beaver?"

Now a beaver is an animal that can cut down trees with its teeth; and it was a gang of this kind of workmen that built these small clay huts.

Some of these huts were nearly three feet high, and so they were not so very small, after all.

And now let us see what the beaver is like. His body is about three feet in length from the tip of his nose to the end of his tail.

He wears two coats of warm fur, and his color is of a reddish brown; his outside coat is made up of long, coarse, glossy hair, but hidden under this coat is a growth of soft, silky fur. It is this silky fur that is used for making beaver hats.

On each of his feet there are five toes; and the toes of his hind feet are spreading and webbed like the toes of a goose.

His tail is not covered with hair, like the rest of his body; it is broad and flat, and covered smoothly over with scales.

He has a thick, broad head, a blunt nose, small eyes, and short, round ears. He feeds on roots, leaves, and the bark of trees, and among the tidbits that please him most are the roots of the water-lily.

Beavers work together in large numbers, and mostly at night; their huts are built in two stories; the lower part is in the water, and there they keep their winter stores.

They sleep in the upper part, on beds made of leaves and tender bark; but the center of the hut is left open, and they generally sleep with their tails hanging down into the water.

Sometimes a family of ten or twelve beavers will live in the same house together, but they are neat house-keepers, and everything about them is kept very clean. Baby beavers feed on their mother's milk, and the mother keeps them with her till they are two years old; soon after that, they begin to make homes for themselves.

These wise animals build their huts so strong that none of their wild neighbors, such as bears, wolves, and other fierce creatures that prowl about the forest, can ever break through.

The roofs of their houses are made of the branches of trees, matted with mud, grass and moss; the walls are very thick, and their doors all open into the water underneath.

They take good care of their huts, and always repair them each year before winter sets in.

They also dig deep canals around those that are built on the banks, and make openings into them from the lower story; by means of these canals they can very easily carry food to their store-houses.

Besides their huts they dig holes in the banks for safety, and they generally go into these holes to eat; they look funny enough, too, as they sit up on their hind feet and hold their food in their fore-paws.

The mother beaver can walk about on her hind feet by the aid of her tail, and carry her babies in her arms; the workers, too, often walk about in this way, carrying sticks and stones with which they build.

When beavers do not find the water deep enough for swimming, or for safety, they go to work and build a dam, and this is the most wonderful thing of all.

The walls of this dam are made of sticks and mud, and the two walls are made to lean toward

each other, so that the dam is much wider at the bottom than it is at the top.

These animals will collect together in large numbers and cut down trees with their teeth; their very sharp teeth are chisel-shaped, and they grow out as fast as they wear off.

After the trees are felled, they cut up the trunk and the branches into small pieces, and either carry them in their paws or drag them along the ground to the spot in which they want to build their dam.

They have been known to swim a long distance with sticks and small stones piled upon their stout, broad heads; as they swim along, they use their webbed feet for paddles, and very often, too, their tail serves them for an oar.

When their dams are fully completed they will last for many years; in fact, the beaver of to-day may be using dams that were built by their great, great grandfathers, years and years ago.

But wise as these animals are, they do not

always know how to shun the snares that are laid for them by men.

In the body of the beaver there are two small pouches that contain a fluid having a very strong odor, and whenever a trapper catches one of these animals he carefully collects this fluid.

Then he rubs a few drops of it upon his traps before he sets them, and places them under the water.

The poor beaver smells this odor, and is not afraid to go near the snare, for he thinks that it comes from some animal of his own kind.

In this way he is often caught, and the trapper gets a good price for his hide.





THE MUSQUASH, OR MUSK RAT.

SOME CUNNING BUILDERS.

PART II.

The beaver is not the only animal that builds a hut of mud; there is a smaller one called the Musk Rat that builds somewhat in the same way.

Indeed, their habits are so much alike that this one is often called the Beaver Rat.

It is about the size of a cat; its fur is of a dark brown color, and is made up of two kinds of hair. The outer fur is long and coarse, but underneath it is short and downy; its tail is clothed with scales, and its hind feet are webbed for swimming.

The hut is built on marshy ground, and is often two or three feet high; it is made of coarse grasses and mud; it also burrows in the banks of streams and ponds. Both its hut and its burrow open into the water.

The Musk Rat has a graceful little neighbor called the Mink. Like all water-loving animals, its fur is make up of two kinds of hair; one kind is short and downy, the other, longer and coarser; it is of a pretty brown color, with short, white hairs scattered about here and there.

This little creature is not a hut builder, but it burrows in the earth, and is a fine swimmer and diver; it feeds on frogs, fishes, and other small animals that are found in and about the water. Like its cousin, the weasel, it will also steal into poultry-yards and destroy both the fowls and their eggs. It has a handsome, bushy tail, and its fur is much prized by the trappers, who snare it in its home near the water.

These snares are often called "dead-falls," and the poor little creature, once caught, seldom escapes from them.

The Otter is another animal that likes to be near the water, but he is not a very good builder; he makes his home in the earth, and if he can find an empty burrow or a hole that is large enough, he will not dig one for himself.

The legs of the Otter are short, but very strong, and its feet have five webbed toes for swimming; it makes a poor figure when trying to move about upon land, but in the water it is very active and graceful.

The Otter also belongs to the weasel family, and like the weasel, its body is long and slim; it feeds on fish, snails and worms.

This creature devours its food in a very dainty manner, and eats only the choice parts of its prey.

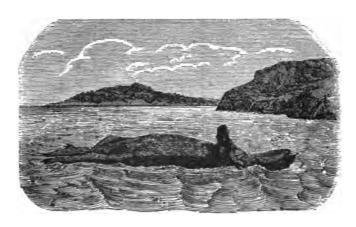


OTTER.

The fur of the Otter is very smooth and handsome, and like the other animals that we have just learned about, it is made up of two kinds of hair; the under fur is very thick and soft, while the outer hair is coarser and longer. It is of a beautiful brown color.

This animal has a cousin that is twice as large as itself; it lives in the ocean and is called

the Sea Otter; its black coat of fur is as soft as velvet.



FEMALE SEA-OTTER SWIMMING ON HER BACK WITH YOUNG IN HER ARMS.

The fresh water Otter can be tamed and taught to catch fish for the table; and like a dog, it loves to be patted and praised by its master.

A number of these animals will often assemble together and slide down a steep bank in the winter; these banks are soon worn down very smooth, and are called "Otter Slides."

There are many different kinds of animals

that live about the ponds and streams, but there are none that show so much skill in building their homes as the Beaver and the Beaver Rat.



BEAVERS AT WORK.

THE GOOD LITTLE FATHER.

One day, an old fisherman sank his net in a small lake. The water was not very deep; for he fished near the shore. The name of this small body of water is Lake Tiberias, and it is sometimes called the Sea of Galilee.

The next day, when our fisherman drew his net up out of the water, he found it very heavy, for it was almost full of various kinds of fishes.*

Among them was one that he called the "Good Little Father." This fish is about seven inches in length, and not quite two inches in thickness; its back is olive green, barred with blue, and its belly is of a silvery lustre, spotted with blue and green.

Now the true name of this handsome fish is Chromis. (Kromis.) It is so called, because of its beautiful colors.

^{*} Both fish and fishes may be used in the plural form.

But let us see why the old fisherman gave it so odd a name; it was because he had seen a good many fishes of this kind, and he knew their habits.

The mother fish lays her small eggs, as many as two hundred at a time, either in sand, or between the tufts of reeds that grow near the shore.

As soon as this is done, the father fish swims to the spot, puts his mouth close to the eggs, and takes in a very long breath; as he does so, he draws the eggs right into his mouth.

Is he going to eat them? Not he! for he would rather starve than do that.

These little eggs soon lodge upon the plaits of his small gills,* and there they stay till the young fishes are hatched out.

And what then? How can Mr. Chromis swim about with any degree of comfort, while his mouth is crammed full of baby fishes?

It is strange, but he does not seem to mind it, in the least; he appears to enjoy it.

^{*} Horny plates or folds through which fishes breathe.

And as he flits backward and forward in the water, with wide-open jaws, one might suppose him to be a jolly, laughing, good fellow, without a care in the world.

But not so, for Mr. Chromis has care, and plenty of it too; he must live and in order to live, he must eat; but he is able to take only a very small morsel at a time.

So, when a particle of food comes in his way, he is almost afraid to swallow it, hungry though he may be.

But after a time his large family find themselves too closely crowded together in such close quarters. They can get very little food from the water that surrounds them, unless they escape from their father's gills. So, one by one, they slip out at the open door of this queer little home, and tumble into the sea.

Then Mr. Chromis closes his jaws with great care, lest he should crush, by mistake, a single helpless infant that may have been left behind.

It may be, too, that he draws a sigh of relief. If he does, it is the only long breath that he has dared to take, since he first drew those precious eggs into his mouth.

Now was not the old fisherman right in naming him the "Good Little Father?"

But where is the mother fish? Ah, she has an easy life of it, I can tell you.

Happy Mrs. Chromis! She flits about, here and there, as swiftly as her fins will carry her, for she has no family cares to worry her.

She knows very well that Mr. Chromis will take charge of the children; and if he does not, it will be all the same to her, for after her eggs are laid she cares no more about them.

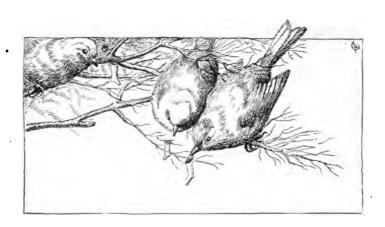
There are a good many mother fishes just like Mrs. Chromis. They would devour their own infants if they had a chance, for some kinds of large fish love to feed on little ones.

Mr. Chromis could have eaten his babies, if

he had chosen to do so, for his mouth is provided with several rows of fine, sharp teeth.

And what a sweet mouthful two hundred baby fishes would have made for him. Was it not a lucky thing, then, for this large family, that they had such a "Good Little Father"?





THE CHRISTMAS CROAKER.

- "Let's hang up our stockings," said little house wren,
 - "Agreed," said the sparrows, "we'll try it."
- "'Twill be of no use," croaked the old speckled hen,
 - "For Santa Claus never'll come nigh it.
- "I tried it last year, and not one of my brood Got a single grain more for the trouble;

- Although I had told them that if they'd be good, Their feed would most likely be double.
- "But I've not forgotton the slight,—never fear,
 I just 'stole' my nest when I made it;
 And never an egg have I furnished this year,
 And not by one cackle betrayed it!"
- "Don't mind what she tells," said the wren, speaking low,

"She's known for her ceaseless complaining; In winter, she fears it is going to snow, In summer, she's sure 'twill be raining."

- "'Twill pay us to try," said the sparrows, aloud,

 "If we get but a few grains of barley"—

 A few grains of barley among such a crowd!"

 Said the hen. Then an end to the parley
 - Was suddenly made by the farmer, who cast His eyes round the poultry-yard, seeking

A fowl, fat and fair, for his Christmas repast.

And ere the poor hen had done speaking,

He seized her, and bore her away by the legs, Although she distinctly protested.

"A-ha," said the cook, "since you won't furnish eggs,

Nor tell where all summer you've nested,

Just make yourself useful for once, Mistress Hen,

There's no use of croaking and kicking; We'll serve you for dinner to-morrow, and then

We'll see if your bones are worth picking."



HOW MAX WENT TO SEEK HIS FORTUNE.

PART I.

Max was a large, black dog; he had a kind master, and a good kennel to sleep in; but like some people that I have known, he was not altogether contented with his lot.

So, one day, after he had eaten his dinner, and taken a nap, he stole out of the back yard, and started out to seek his fortune.

Just across the meadow there was a dark forest; it was the home of several kinds of wild animals, as Max well knew; for he had hunted some of them down, when they had ventured too far into the open fields.

Toward this forest, he at once bent his way; and as he trotted briskly along, he stopped, now and then, and put his nose down, close to the ground.

Pretty soon he stopped, and stood quite still;

then he pricked up his ears and listened; there was just a slight rustle among the bushes, and then, quick as a flash, a small animal darted into a hole at the foot of an old moss-grown stump.

Max gave a sharp bark and a quick bound, at the same time; but he was just a second too late. This animal was a Marmot; it is commonly called a woodchuck, and sometimes, a ground hog; its color is of a reddish brown, sprinkled with gray; its legs, as well as its tail, are short and it has a broad, flat head.

It burrows deep in the earth; and at the end of its burrow, it makes a soft, warm nest of leaves and of hay, for its young.

Sometimes it goes forth during the day time; but it generally comes out at night, in search of food; it feeds on the juicy roots and leaves of plants, and often does much harm in the fields and gardens.

Now Max knew that if he could drive this. fat creature out of its burrow, that he should

secure a prize; so with his strong fore-paws, he began digging with all his might.

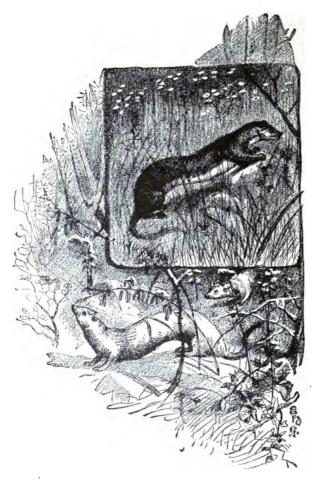
Mistress Marmot could hear the bold robber at her door, but she had no fears; for she well knew that he could not get in, unless she herself lifted the latch, and she had no idea of doing so foolish a thing as that.

Max pawed and barked, by turns, for more than an hour, then he crouched down and waited, very still, to see if Mistress Marmot would not put her nose out of the door.

*But it was of no use, for she was too wise to do that, and so he finally sneaked away, giving at every step, a low growl of discontent.

"Never mind," said he to himself, as he turned, once or twice, and looked back at the old stump. "Never mind, I am pretty sure that I shall soon get on the track of a sly weasel, and I would rather hunt a weasel than a woodchuck at any time."

Now the weasel is a very stylish gentleman,



WEASELS.

for he has two fine suits of fur; one suit is for winter, and the other suit is for summer.

In winter, he wears a white coat, and his long tail is tipped with black; in summer he puts on a



WEASEL AND ERMINE.

reddish brown coat, with a yellowish white vest, underneath. His body is long and slim, his legs are not very long, and his short feet are armed with sharp claws; he is very nimble in his movements, and his sense of smell, as well as of sight, is very keen.

He can climb trees, and steep walls, and

when in pursuit of water rats,—of which he is very fond—he can swim with great speed.

He looks like his cousin, the Ermine, but his fur is not quite so fine.

Weasels seldom eat the flesh of their victims; they pounce upon their prey, such as chickens, birds, mice, rabbits, and other animals, and after they have fastened their sharp teeth into the flesh, they suck their blood. They are also very sly nest-thieves, and will often suck the eggs of ground-birds, hens, and of other fowls.

The mother weasel makes a soft nest of leaves for her young, sometimes she builds it in a sheltered bank of earth, and sometimes in a hollow tree.

These animals generally sleep during the day time, and at night they steal slyly about in search of prey.

HOW MAX WENT TO SEEK HIS FORTUNE. PART II.

Now it so happened, that as Max was bounding through a deep thicket, he sniffed the strong odor of a weasel; he stopped for a moment, pricked up his ears, and listened.

Then he crept very carefully along, till he came to an old, hollow tree. He walked round and round it sniffing the low twigs at its roots, and once in a while giving a short, loud bark.

Inside of this tree was a mother weasel and her family of five babies, fast asleep; but as soon as she heard the bark of a dog, she sprang from her nest, and Max bounded after her.

It was a short, fierce battle, but Max gained the day. The mother weasel was fighting for her little ones, and she bit the neck of the dog in two or three places with her sharp teeth.

But at last, he seized her with his strong

jaws and shook the breath right out of her; then he returned to the tree, and soon made an end of her little ones. "There!" said he, as he sniffed at the old weasel's body, to make himself quite



SKUNKS.

sure that she was dead. "There! you will never visit my master's poultry yard again!"

Max now felt very brave, and he had no fear of any animals that might chance to come in his way. He had gone but a few paces, however, when he spied an object that caused him to halt, this was no other than the weasel's own cousin, the skunk. This creature is about as large as a cat, it is of a blackish brown color, spotted and streaked with white; it burrows in the earth, and feeds on mice, frogs, insects, and fruit.

Its snout is pointed, and armed with sharp teeth; its body is not as long as that of the weasel but it has a long, bushy tail.

Now when Max saw this animal raise its tail, and turn it toward him, he wheeled about, and bounded away as fast as his legs could carry him.

The fact is, Max had met an animal belonging to this family, once before, and he had good cause to remember it.

The skunk has two scent-glands, near the tail, and when disturbed, it will throw out a fluid of so vile an odor that no animal can endure the stench. But Max was a very proud dog, and he

did not like to admit that he was afraid in the least; so when he had put himself at a safe distance he turned around and growled out, "I could shake your life out of you, Mistress Skunk, but I have not the time, just now, to bother with you." With that he bounded away, as if in great haste.

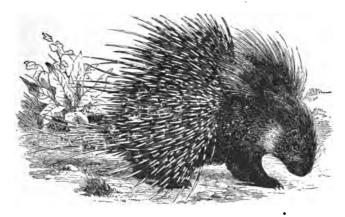
As he trotted along toward an open glade, he put his nose close to the trunk of a young tree and took two or three short sniffs.

The bark had been gnawed off, nearly around the tree, by the sharp teeth of some animal not far away, and Max was soon on the scent of its track.

All at once he heard a scratching overhead, among the branches, and in a minute more, down tumbled a creature from the top-most bough, and as soon as it struck the ground, it rolled itself up into a solid ball. With a fierce bark, Max pounced upon his prey, and at the same time, he gave a howl of pain; then he turned, and leaped away, howling at every step.

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Max had met more than his match, for this animal was a porcupine; it looks something like a pig, and as it moves about in search of food, it often makes a low, grunting sound.



THE PORCUPINE.

On its fore-feet, it has four toes and a thumb, and on its hind feet, there are five toes.

The back, sides, and tail of this creature, are covered with long white quills, and these are tipped at the ends with sharp, black spines; and woe be to any animal that gets these spines into its flesh.

Porcupines feed mostly on roots and the bark of trees, but they are very fond of sweets, and



HEDGEHOGS.

will often steal into places where bees are kept, in order to get the honey.

These animals are often called hedgehogs,

but the hedgehog proper lives over the sea, and makes its home in burrows in the ground, while the porcupine lives in hollow trees and in stumps.

But what became of Max? His young master heard the poor fellow yelping and howling, long before he reached the door.

And as soon as he caught sight of him, he knew what had happened; for the eyes, ears, and nose of the poor beast were filled full of sharp needles and so he set himself at work, without delay, to pull them out.

Some of the cruel spines had taken such a deep hold of the dog's flesh that they could hardly be removed.

But at last, a pair of sharp forceps were used, and one by one the shining needles were drawn out. That night when Max had settled himself snugly down in his kennel, he whimpered to himself, "This is the very last time that I ever start out to seek my fortune."

UNDER THE EAVES.

"Tell me, does it rain?" asked Mrs. Swallow, as she peeped over the edge of her clay-built nest, under the eaves of an old barn.
"No, dear; it is only the dripping of the roof that you hear," twittered Mr. Swallow, as he gave his deeply forked tail a quick little flirt, and plumed the shining, steel-blue feathers of his long,

pointed wings.

After awhile, Mrs. Swallow spoke again. "I wonder when I am to have my breakfast," said she; and this time she chirped out, in rather a sharp tone of voice. "If I could leave my eggs and fly about as you do, I should always get enough to eat, and have a chance to see a little of the world besides."

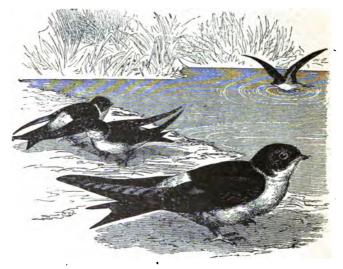
"I am sure that I have done the best that I could for you," answered her mate. "You very well know that a fine insect is not quite so easy to be met with, on the wing, since that hungry Sparrow family moved into the place; and what they leave, the robins are always sure to take.

"As for the greedy Sparrow family, they can feed around back doors, or in the gardens," twittered Mrs. Swallow, "and if you had half the spirit of your cousin, the Purple Martin, you would drive every one of these birds out of the neighborhood; for my part, I am tired of sitting in this dull, poky place, alone all day."

At this, Mr. Swallow pecked at his very short legs, with his weak little bill, as if he hardly knew what to say in reply.

Finally, he began to twitter again. "You have no good cause to complain," he said, "you are hatching your eggs in the very same nest that you had last year, and it is as good now, as it was then.

"There is our neighbor, Mrs. Swift, has no better place for her nest than a sooty chimney; I watched her and her mate while they were gathering the twigs for it."



THE MARTIN.

"Did you?" chirped Mrs. Swallow, "do tell me about it."

At this pleasant request, Mr. Swallow hopped a little nearer to his mate and twittered very cheerfully.

"This is how they did it," said he. "They first gathered a large number of small twigs of about the same length. Then they braided and fastened them together with a strong glue that they keep under their tongues, ready for use."



SPARROW.

"And all this work had to be done in that dark chimney!" chirped Mrs. Swallow in a tone of much surprise.

"Every bit of it," answered her mate, "and what is more, poor Mrs. Swift has to sit on her nest in that dark chimney till her eggs are hatched."

As Mr. Swallow made this last remark, he turned his pretty little head sidewise, and glanced very slyly at his mate.

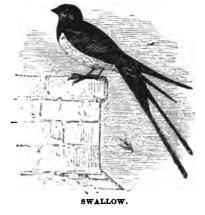


THE COMMON SWALLOW.

"But is it quite safe to build a home in a sooty chimney?" asked she, after a moment's silence.

"Indeed, it is not," he replied; "for the first time that a fire is made on the hearth below, Mrs. Swift and her babies will be sure to be smoked to

death.



"But they are better off, after all, than their cousins that build in chimneys, across the sea, for the people there use their nests for food; and so they are often robbed of their pretty homes that

they have taken so much pains to make.

"We have cousins that make their homes in sand banks, and others that nest in hollow trees, but I cannot learn that they are any safer or happier than we.

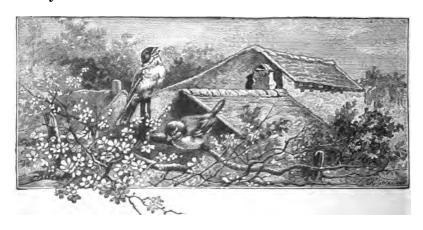
"And now, my dear, I hear my neighbor calling out Pewee!' to his little wife, Phoebe, and that

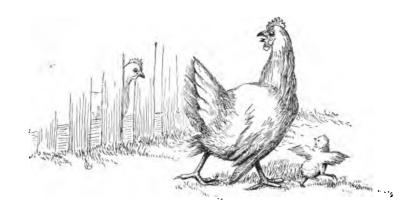
reminds me that you have not yet had breakfast."

As Mr. Swallow said this, he stretched out his long wings, and away he flew, at the rate of a mile a minute, skimming the air in a most graceful manner, in search of insects on the wing.

Very soon he returned with a small, juicy, tidbit for his mate; and then what chirping and twittering there was, till one would have thought that there was a whole family of them, and that they were all trying to talk at once.

"After all," chirped Mrs. Swallow to her mate, "what better home does one need than a cozy nest under the eaves of this old barn?"





THE HEN WITH ONE CHICK.

PART I.

A-near the barn, with due regard
To size, the spot selected *
For Farmer Thrifty's poultry-yard
Was warm and well protected.

And though his fowls were clumsy things,
And fat, from over-feeding,
They'd proudly flap their ugly wings,
And crow of their high breeding!

^{*} The teacher should syllabify the difficult words in this lesson.

But just outside, in wretched plight, Unsheltered and unguarded,

A poor, lone hen caught with delight The bits which they discarded;

And by her side, a scrawny chick,

A pink-eyed, puny peeper,

That she stroked gently with her beak,

Then scratched for crumbs, the deeper.

And though she sought with hungry bill

Each fruitful spot to pick in,

No morsel did she taste until

One day the Storm King blew a blast That made the boldest shiver, And froze with fear the rippling laugh That dimpled o'er the river.

She'd first supplied her chicken.

The frightened fowls, from near and far,
A sheltered screen were seeking;
For Nature's doors seemed all ajar,
And every hinge a-creaking.

The poor, lone hen looked here, and there, And stretched her neck and listened;

And something very like a tear Within her sad eye glistened.

Then as the wind raved loud and high, She clucked and croaked together,

As if to say, "Where shall we hie To shield us from the weather?"

PART II.

Now moved with pity past her will At such a sad exposure,

A Bantam mother thrust her bill Outside the fenced inclosure,

And croaking, said, "Poor creature, though I pity your condition,

My family are bred, you know, In very high position;

"But out of charity, I'll dare,—

(To keep you both from begging,)

To take your chick and let it share

My wings and soft, warm legging,

"The same as my own precious brood,
And thus I'll feed and rear it;
But you elsewhere must seek your food,
And never more come near it."

Beneath her wings, close to her breast,
She gathered up her treasure,
And ruffling to her very crest,
Thus cackled her displeasure:

- "Your charity is dearly bought,

 When I my heart must smother,

 And let my only child be taught

 To treat with scorn its mother
- "Since you despise the poor and frail,
 Because of your position,
 Your pity never can avail
 To better their condition.
- "No, no; I'll search through glade and glen,
 There'll be some spot to pick in;
 And 'tis a poor and worthless hen
 That can't scratch for one chicken."

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